

INTERNAL MEDICINE AND DERMATOLOGY

Paul W. Clough, M.D.
editor-in-chief

SEE IMPORTANT ANNOUNCEMENT PAGE 263

INTERNATIONAL RECORD
OF INTERNAL MEDICINE AND DERMATOLOGY

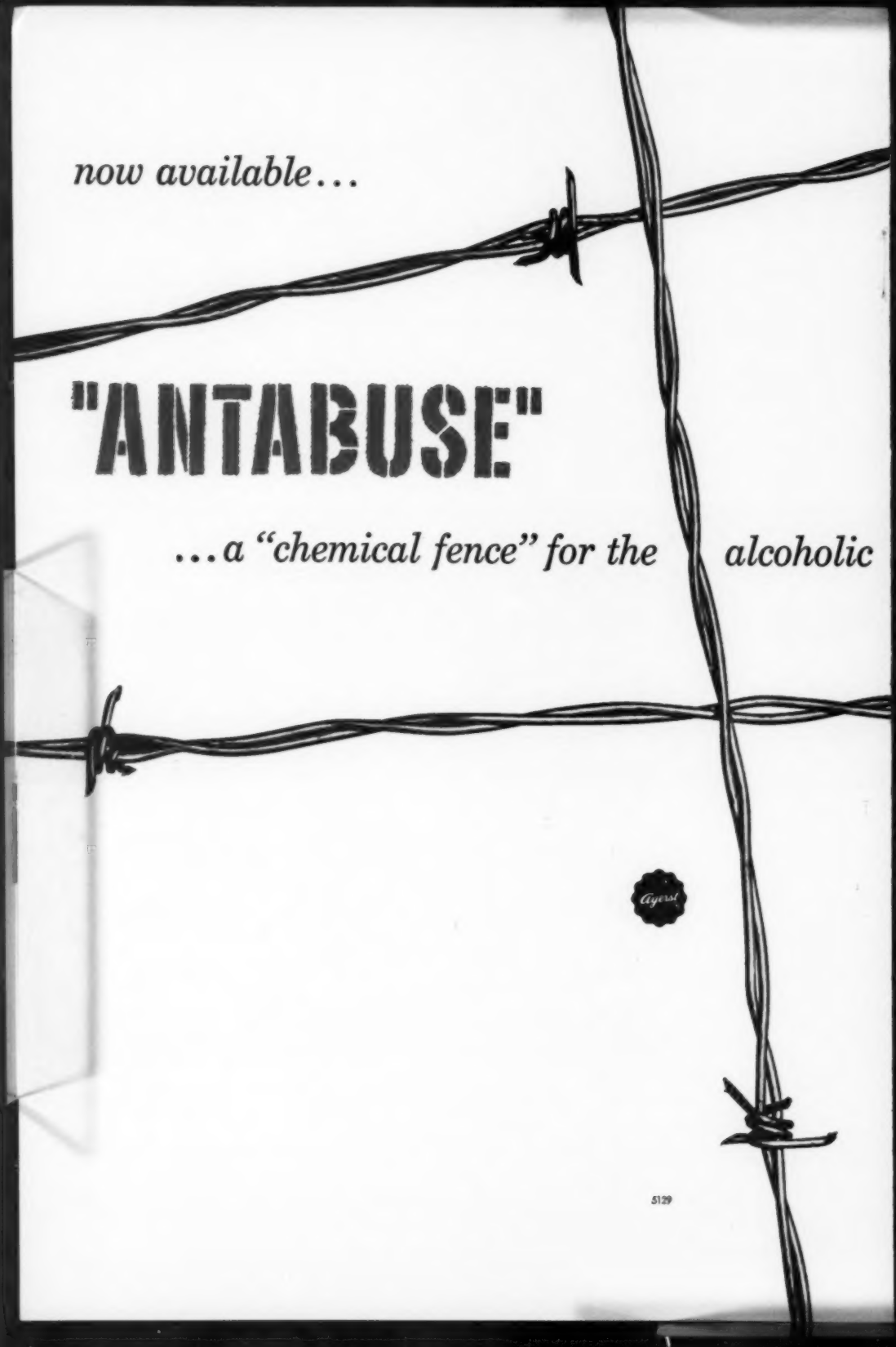
Seventy-five Years of Progress in
Venereal Disease Therapy
Charles H. Mann

VOLUME 8 NO. 4 DECEMBER 1951

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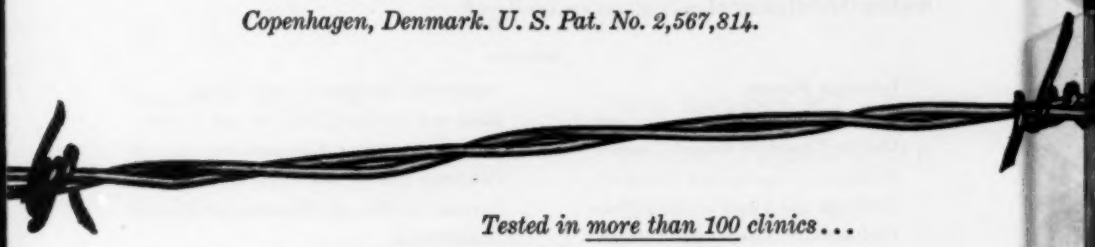
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FOREWORD

The QUARTERLY REVIEW OF INTERNAL MEDICINE AND DERMATOLOGY provides a systematic and selective system for bringing together, in one publication, a quarterly summation of the clinical and experimental developments in internal medicine and the related medical specialties on a world-wide basis. During the past several years, eminent teachers and clinicians have given much thought and effort as to the best bases for selection and the most practical methods for classifying these data for quick clinical reference and easy collateral reading. Through this cooperative effort there has been developed in the QUARTERLY REVIEW an assured system for definitely keeping abreast of the currently approved new therapeutic procedures and opinions based upon the consensus of internationally recognized authorities. This plan not only saves time and expense but also through the annual cumulative index builds, for each subscriber, a permanent reference work unsurpassed for scope and authority. Emphasis is placed upon the clinical application of the newer therapeutic agents and procedures; therefore, specific dosages are given, reactions and contraindications are discussed, and all other essential data are presented so that these newer methods may be promptly, safely, and successfully applied by all who refer to the QUARTERLY REVIEW. For quick reference and to facilitate the uses of these data for collateral reading the following classifications are employed:

MEDICINE

- Infectious Diseases
- Chemotherapy of Infectious Diseases
- Diseases Caused by Animal Parasites
- Respiratory Disorders and Diseases
- Cardiovascular Disorders and Diseases
- Genitourinary Disorders and Diseases
- Gastrointestinal Disorders and Diseases
- Blood and Lymphatic Disorders and Diseases
- Allergic Disorders and Diseases
- Deficiency Diseases and Metabolic Disorders
- Nervous and Muscular Disorders and Diseases
- Miscellaneous

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BOOK REVIEWS

NEWS, NOTES, AND COMMENTS

A section entitled International Record of Internal Medicine and Dermatology is to be included at the beginning of the journal. This Record Section will consist of advanced experimental and clinical reports.

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INCORPORATING THE INTERNATIONAL RECORD OF INTERNAL MEDICINE AND DERMATOLOGY

Quarterly Review of

INTERNAL MEDICINE AND DERMATOLOGY

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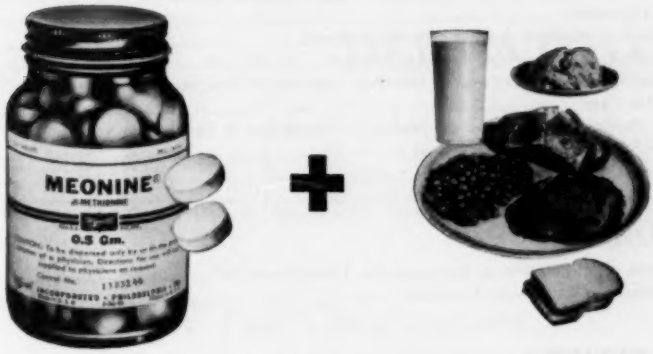
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Quarterly Review of **INTERNAL MEDICINE AND DERMATOLOGY**

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Incorporating the International Record of Internal Medicine and Dermatology

Dr. Paul Clough retires as Editor-in-Chief

The retirement of Dr. Paul Clough from the position of Editor-in-Chief of the QUARTERLY REVIEW OF INTERNAL MEDICINE AND DERMATOLOGY removes from the Editorial Board a distinguished personality in internal medicine.

At this time it seems appropriate that some note should be made of his career and of his valuable contributions, not only to this journal which he has served since 1944, but in medical education and medical research.

Dr. Clough was born in Portage, Wisconsin in 1882 and, after receiving his bachelor's degree at the University of Wisconsin in 1903, moved to the Johns Hopkins Medical School from which he graduated in 1907. He was successively intern, assistant resident in medicine, and chief medical resident physician in the Johns Hopkins Hospital from the time of his graduation until 1916. At that time he was appointed Associate Professor of Medicine in the Johns Hopkins University. This association with the Johns Hopkins Medical School has continued since that day. Since 1921 he has held the title of Physician, Johns Hopkins Hospital. Since 1923 Dr. Clough has also been a member of the faculty of the University of Maryland School of Medicine in which he has held the title of Associate Professor of Medicine.

Through all the earlier years of Dr. Clough's career in medicine, he was active in medical research, chiefly in the field of bacteriology and immunology. Perhaps his best known work during this period was that relating to pneumococcal infections. These publications added considerably to existing knowledge of the mechanism of natural and acquired immunity to the pneumococcus. Later in his clinical career, hematology claimed his interest, and his bibliography contains titles dealing with various aspects of anemia, monocytic leukemia, and the reactions following transfusions of blood. In 1929 he published his

book on diseases of the blood. He was coauthor with E. R. Stitt and his wife, Mildred C. Clough, of the Ninth Edition of Stitt's manual, *Practical Bacteriology, Hematology, and Animal Parasitology*. He again participated in the Tenth Edition of this well-known book in 1947.

Dr. Clough's scholarly aptitudes led to his accepting appointment as Assistant Editor of the ANNALS OF INTERNAL MEDICINE in 1936, and during the Editor's absence in military service he was Editor-in-Chief from 1942 to 1946. In 1944 he was appointed Editor-in-Chief of the QUARTERLY REVIEW OF INTERNAL MEDICINE AND DERMATOLOGY.

Among the medical societies to which Dr. Clough belongs may be mentioned the Association of American Physicians, the American Society for Clinical Investigation, and the American College of Physicians. He is also a member of Phi Beta Kappa, Alpha Omega Alpha, and Sigma Xi.

These achievements in an outstanding medical career have been accomplished in the face of the pressing calls of teaching duties and an active consultant practice. It is easily understandable that Dr. Clough has felt the need of relinquishing some of his interests and of lightening some of the burden. The QUARTERLY REVIEW OF INTERNAL MEDICINE AND DERMATOLOGY owes much to the ability of his leadership as Chief Editor during his years of tenure and wishes him continued success in his future career.

—Maurice C. Pincoffs, M.D.

NOTICE

Change of Address: Please notify us of change at least a month in advance of month of issue. Be sure to give your old and complete new address, including zone number, to Subscription Department, Washington Institute of Medicine, 667 Madison Avenue, New York 21, N. Y.

Index: The cumulative cross reference index of the four issues of 1951 will appear in the February 1952 magazine.

New Editor-in-Chief
Dr. Emanuel B. Schoenbach

We are pleased to announce that the position of Editor-in-Chief of the QUARTERLY REVIEW OF INTERNAL MEDICINE AND DERMATOLOGY has been accepted by Emanuel B. Schoenbach, M.D., F.A.C.P. This change is to take effect with the first issue in 1952, which is to appear in February.

Born on November 11, 1911, Dr. Schoenbach attended Harvard Medical School where he later held the position of instructor in bacteriology and immunology under Dr. Hans Zinsser. During World War II he was associated with the U.S. Army Epidemiological Board on the Commission of Meningococcal Meningitis and was Assistant Administrator under Brig. Gen. S. Bayne-Jones. In 1946 he joined the Faculty of the Johns Hopkins University School of Medicine as Associate Professor of Preventive Medicine and Assistant Professor of Medicine. At that time he was also Physician to the Johns Hopkins Hospital and Attending Physician to the Sinai Hospital in Baltimore. In September 1951 Dr. Schoenbach came to New York as Professor of Medicine at the State University Medical Center at New York and Director of Medical Services at the Maimonides Hospital of Brooklyn. He is a member of the Committee on Cancer Diagnosis and Therapy of the National Research Council, Consultant to the National Cancer Institute, and a member of the Subcommittee for the Medical Application of Radioisotopes, Veterans' Administration, among other important positions. His publications have appeared in the fields of chemotherapy of infectious and neoplastic diseases, epidemiology, and biochemistry.

Seventy-five Years of Progress in Venereal Disease Therapy

Charles H. Mann, M.D., Dr.P.H., F.A.P.H.A.

MEDICAL DIRECTOR
HEYDEN CHEMICAL CORP., NEW YORK, N. Y.

An important era in chemical progress during the past 75 years depicts the effective teamwork of the medical profession, chemical researchers, and manufacturers in developing new tools for clinical experimentation which have resulted in step-by-step advancement toward adequate control of venereal disease.

In 1876 mercury compounds were still being used in the treatment of syphilis in spite of their high toxicity. Potassium permanganate and neutral acriflavine were prescribed for gonorrhea with variable results.

The conspiracy of silence about these afflictions in 1876 was so widespread that it was sensational and shocking news, even to scientific men, when Dr. J. Marion Sims, of Alabama, urged all doctors to recognize venereal disease as a "number one" public health problem and fight for its control.

Today penicillin provides excellent effectiveness in the therapy of both syphilis and gonorrhea. Also *chancroid, Lymphogranuloma venereum* and *Granuloma inguinale,* comprising the "Minor Venereal Disease Group" are responding well to the administration of chemotherapeutic agents such as the sulfonamides or to the antibiotics, streptomycin, aureomycin, chloramphenicol, and terramycin.

Medical and chemical researchers are continuing their search for new compounds that will be even more effective in controlling all types of venereal disease. The courageous activity of the United States Public Health Service in publicizing the need for control and the resulting greater activity of state and local health departments has been an important factor in expanding the use of the improved therapy of venereal disease. This trend suggests continually broadening markets for antibiotics, chemotherapeutic agents, or whatever more efficient new compounds research may develop for venereal disease therapy in the future.

The following resume of research accomplishments in the field of venereal disease control during the past 75 years indicates how effectively medical and chemical research, in conjunction with research in such fields as bacteriology, pathology and serology, has attained the degree of control that now exists in the United States.

Of the five venereal diseases, syphilis has provoked the greatest amount of research because of its devastating properties for attacking all tissues of the body.

Mercury came into widespread use as a specific agent against syphilis in the early part of the 16th century. Although it had therapeutic advantages, improper use by quacks resulted in numerous toxicities and deaths. These ill effects caused physicians to use other preparations such as guaiacum, china root, sarsaparilla, and sassafras that were less active but much less toxic than mercury. In Europe these therapies were supplemented by purging, bleeding and sweating, the latter provided by partial submersion in hot natural springs.

In 1834 William Wallace introduced the iodide of potassium for use in the treatment of stubborn cases of secondary syphilis. After wide exploitation as a cure-all, its limitations were recognized. During the last quarter of the 19th century, mercurial therapies were revived as a result of the investigations of Fournier in Paris and Hutchinson in London, who worked out methods of avoiding salivation and other manifestations of mercurial toxicity.

But it was not until the 20th century that really effective advancement was made in syphilis control. An important milestone in this progress was the discovery in 1903 by Metchnikoff and Roux that apes could be used satisfactorily for producing experimental syphilitic infection. Then, in 1905 Hoffman and Schaudinn first demonstrated the spirochete as the causative agent of syphilis. In 1906 Landsteiner and Mucha applied the dark field apparatus for the identification of the spirochete present in early active syphilitic infection.

In 1906 Wasserman developed the first blood test for syphilis which bears his name.

In 1910 Ehrlich discovered salvarsan, a preparation of organic arsenic, also identified as 606 because he had investigated 605 compounds before he found the one capable of killing the spirochete without injuring the patient. During World War I, the German patents on salvarsan were voided in this country, and the compound was marketed under the name "arsphenamine." Next came Neoarsphenamine (neosalvarsan), Silverarsphenamine, Sulfarsphenamine, Tryparsamide, Bismarsen, and others.

The next important advance in syphilis therapy came in 1921 when Sazerac and Levaditi demonstrated bismuth as safer and more efficacious than mercury as a supplement to the arsenic therapy of syphilis.

In 1932 Tatum and Cooper introduced the arsenoxide of arsphenamine, and this product was marketed as Mapharsen. This was followed by the introduction of many similar compounds, the most effective of which was Dichorophenarsine Hydrochloride (Cloarsen). By 1942 arsenoxide was the preferred arsenic preparation, and bismuth subsalicylate in oil was the preferred bismuth preparation.

Although the arsenicals and bismuth provided therapeutic effectiveness, the disadvantages of their toxicity were constant reminders that the search for better therapeutic agents must continue. Intensive research continued to provide many improvements including the use of short, intensive schedules of arsenic therapy and bismuth combined with fever therapy induced by the use of malaria, typhoid vaccine or by mechanical fever chambers.

In 1942 the success of the new drug penicillin as an effective, nontoxic agent against many bacteria excited the interest of Dr. John Mahoney, then director of the U. S. Public Health Service Venereal Disease Research Laboratory, Staten Island, N. Y., and now New York City Commissioner of Health. He reported the first successful treatment of four cases of early syphilis with penicillin before the 1943 annual meeting of the American Public Health Association.

Since then, there has been rapid expansion in the use of penicillin therapy for syphilis—a program which has been greatly enhanced by the development of such products as penicillin in beeswax and oil, procaine penicillin for aqueous injection, procaine penicillin in oil, and procaine penicillin in oil with monostearate. Penicillin undoubtedly has revolutionized the treatment of syphilis and made possible much more efficient control.

Although gonorrhea is one of the oldest known human diseases dating back more than 5,000 years, little was known about its cause and effective control until 1879 when Neisser's discovery of the gonococcus opened the way for research leading to accurate diagnosis and effective therapy. According to Pelouze, numerous chemical preparations known to have antiseptic or germicidal effect were employed for local treatment of gonorrhea.

Potassium permanganate, neutral acriflavine, mild protein silver, and strong protein silver appeared to provide most encouraging results. A significant advance was the work of Credé during the last five years of the nineteenth century, in collaboration with the German chemical firm, Chemische Fabrik von Heyden, which developed a preparation of colloidal silver (collargol) which, for the first time, presented silver in a form that had greater penetration qualities than those previously obtained.

Although silver was used in gonorrheal infection for many years with varying degrees of success, it was not highly effective against the gonococcus, and it had the distinct disadvantage of causing toxicity in the form of argyria. On the other hand, 1 per cent solutions of silver nitrate have contributed immeasurably to the prevention of gonococcal infections of the eye in the newborn and this type of prophylaxis is still used.

In 1937 gonorrheal therapy was markedly changed by the discovery of sulfanilamide which, experiments showed, had specific activity against the gonococcus. Work on the sulfonamides proceeded rapidly after the development of sulfanilamide, and soon this sulfonamide was replaced by less toxic compounds such as sulfathiazole and sulfadiazine.

For the next several years, the sulfonamides provided excellent results against gonorrhea. However, by 1944 as high as 50 per cent failures were occurring, and it was quite evident that the sulfonamides were not living up to original expectations.

In the meantime, in fact, beginning early in 1943, the antibiotic, penicillin, was demonstrating excellent effectiveness against gonococcal organisms. It was found that the product, penicillin, in beeswax and oil was highly effective in single dosage to gonorrheal infections of the male.

During the last five years or more, much has been learned about what may be expected from penicillin in relation to its efficacy against gonorrheal infections. Formulations such as procaine penicillin for aqueous injection, procaine penicillin in oil, procaine penicillin in oil with aluminum monostearate, and penicillin tablets for oral use have been used with excellent results in the treatment of acute and chronic gonorrhea. In addition, penicillin solution has provided satisfactory prophylaxis against gonorrheal infections of the eye in the newborn. However, this latter use of penicillin is not entirely accepted because many physicians still prefer to use a 1 per cent solution of silver nitrate because of its proved effectiveness over many years.

Research in the therapy of gonorrhea continues despite the proved efficacy of penicillin as it is realized that the gonococcus may at sometime become penicillin-resistant. In this respect, it is important that much preliminary clinical research with streptomycin and the newer antibiotics is underway. This program should assure maximum effectiveness in gonorrhea control in the years to come.

In retrospect, the last 75 years of progress in venereal disease therapy represents an era of greatest achievement against diseases that have had serious social and economic implications. The basic principles of venereal disease control are better understood today, due to chemical and medical research that, for so many years, seemed impossible to realize.

ABSTRACTS

internal medicine

INFECTIOUS DISEASES

The Risk of Infection During Prolonged Treatment with Cortisone and the Adrenocorticotropic Hormone ACTH. (Le risque d'infection au cours de traitements prolongés par la cortisone et par l'hormone adrénocorticotrope ACTH.) H. DUBOIS-FERRIERE, Geneva Switzerland. Presse méd. 59:442-3, April 4, 1951.

Prolonged treatment with cortisone or ACTH presents some risk of infection which should not be overlooked. This may consist either in infection localized within the sites of the injections, or in phlegmons or exceptionally in septicemia.

The diagnosis of such conditions is rendered difficult by the fact that the usual signs of infection may be concealed for a long time and exhibited only when the hormonal treatment was stopped.

Important purulent collections have been seen to develop with no rise of temperature, no pain, and no local heat. Only a more or less apparent swelling excites attention.

The author reports a case of septicemia from *staphylococcus aureus* which developed in a patient treated during more than 5 months for Hodgkin's disease. As long as the patient was given the dose of cortisone which caused the lymphogranuloma to be clinically cured, nothing revealed an infectious condition.

But this appeared as soon as the cortisone dose was diminished in the form of malaise, sudden fever, and chills, and disappeared as soon as the normal dose was resumed. Although the patient was feeling comfortable, the hemoculture showed a septicemia from *staphylococcus aureus*. Complications occurred with bronchopneumonia and empyema and ended in death in spite of an intensive use of antibiotics.

The author points out that cortisone is responsible for such secondary infections owing to the lessening of the resistance to individual pathogenic organisms and owing to its preventive local inflammatory reactions, which oppose the extending of the infectious focus.

In Reference to the Rare Glandular-Pulmonary Manifestations Following BCG-S Vaccination. Comments on the Pathogenesis of Primary Tuberculosis. (A propos des rares manifestations ganglio-pulmonaires après vaccination par le BCG-S. Considerations pathogeniques sur la primo-infection tuberculeuse.) M. FOURESTIER, M. BIDERMANN, AND S. ETTEDGUI, Paris, France. Presse méd. 59:443-4, April 4, 1951.

The writers criticize both postulates on which the pathogenesis of human primary tuberculosis infection is based, that is: (1) the path of entry of the infecting bacilli is most often respiratory, (2) the x-ray thoracic image of the glandular-pulmonary com-

plex brings out the parenchymatous inoculation chancre and its juxta-bronchial satellite adenopathy.

The writers maintain that the parenchymatous image of primary infection brings out only exceptionally the inoculation chancre but most often shows the bronchiolo-alveolary consequences of the glandular peribronchitis with or without glandular-bronchial fistula, which represent the manifestation of the primary tuberculosis in the thorax (inoculation, atelectasis or neuro-reflex, secretory disturbances).

The argument of the writers is based on a close clinical, tomographic, and bronchoscopic analysis of many cases of human spontaneous primary infection, on a study of several cases of juxta-bronchial localization of the vaccinal tuberculous primary infection (the cutaneous inoculation of the bovine bacilli having been performed far away from the thorax in the thigh), and on a study of the recent literature.

In most cases of spontaneous human primary tuberculosis, there is neither any inoculation chancre, nor any satellite adenopathy to be found. The path of entry of the bacillus would be most often digestive and unapparent.

Effect of Transportation on Severity of Acute Poliomyelitis. M. BERNARD BRAHDY, Mount Vernon, N. Y., SELIG H. KATZ, New York. J.A.M.A. *146*:772-4, June 30, 1951.

To determine the effect of long transportation upon the final outcome of poliomyelitis, a study was made of the 493 patients admitted to the Willard Parker Hospital from June to November 1949. For the purpose of analysis, the patients were divided into two groups. The local group consisted of 380 patients from within the city who were transported to the hospital an average distance of seven miles, after the onset of meningeal signs. The transported group consisted of 113 patients who were transported an average distance of 85 miles. The two groups were found similar in respect to age, sex, and duration of illness before admission to the Willard Parker Hospital, thus permitting the evaluation of the factor of transportation.

The patients transported long distances had a fatality rate three times that of the local patients (16 per cent and 5.3 per cent respectively). Another analysis was made of only those patients with bilbar or encephalitic involvement. Among these the fatality rate in the transported group was 46 per cent and in the local group it was 24.4 per cent. A third analysis was made of deaths within 24 hours after admission to the Willard Parker Hospital. In the transported group 50 per cent of the deaths occurred in this period and in the local group 20 per cent of the deaths occurred within 24 hours after admission. All the analyses indicate that transportation over long distances is harmful to a patient in the acute stage of poliomyelitis. 10 references. 6 tables.—*Author's abstract.*

Effect of Physical Activity on Prognosis of Poliomyelitis. ROBERT M. ALBRECHT AND FRANCES B. LOCKE, Albany, N. Y. J. A. M. A. *146*:769-71, June 30, 1951.

To determine why poliomyelitis patients vary in the severity of paralysis, an attempt was made to confirm Russell's report that exercise in the preparalytic stage of poliomyelitis greatly increases the danger of paralysis and complete physical rest in bed from the onset of the preparalytic stage greatly reduces it. Three hundred and eighty-

one poliomyelitis cases, aged three years or more, occurred in Nassau County in 1949. (Patients under the age of three were not studied because the degree of their activity could not be judged.) Of the 381, 200 were studied. Twenty-four of the 200 studied died. The extent of paralysis in the remaining 176 was determined by muscle gradings made five and one-half to seven months after onset. In patients aged 24 or less, no relation was demonstrated between degree of physical activity at any time from three days before the onset of poliomyelitis through the preparalytic stage, and the subsequent paralysis. Of the 51 patients, aged 3 to 24 with normal or heavier activity in the preparalytic stage, 69 per cent had light or no paralysis. Of the 32 who had light activity in this stage, 72 per cent had light or no paralysis. Of the 60 patients who stayed in bed during this stage, 73 per cent had light or no paralysis.

Older people (aged 25-49) had a tendency to more severe paralysis if they exerted themselves in the preparalytic stage. Of the 26 who had normal or heavier exertion at this time, 23.1 per cent had light or no paralysis. Of 7 who had light activity, 71.4 per cent had light or no paralysis. Of 7 who stayed in bed during this period, 57.1 per cent had light or no paralysis. The difference is statistically significant.

Of the 24 deaths, six occurred in people who stayed in bed through the preparalytic phase, four in people who had light activity in this stage, 13 in people who continued their normal activity, and one in a patient who exerted himself severely.

Only five patients exercised heavily in the preparalytic stage. One died, one was not paralyzed, and three were severely paralyzed. However, they were all older patients ranging in age from 17 to 41. With the same degree of activity, adults have poliomyelitis more severely than children.

It was concluded that in older adults the severity of poliomyelitis may be due in part to the extent of physical activity in the preparalytic stage. In younger patients the severity of paralysis cannot be explained by the degree of physical activity shortly before the onset of illness or at any time during the illness. 7 references. 5 tables. *—Author's abstract.*

Second Attacks of Poliomyelitis: Report of a Case With Autopsy Findings. ARCHIBALD HOYNE AND IRVING LIPTON, Municipal Contagious Disease Hospital, Chicago, Ill. J. A. M. A. *146*:707-09, June 23, 1951.

A second attack of poliomyelitis with fatal termination and autopsy findings in a white woman aged 31 years is presented. It is probable that this is the only reported authentic second attack with fatal outcome and complete pathologic examination. On gross and microscopic examination, the nervous system showed typical lesions of both recent and past involvement. It is possible that second attacks of poliomyelitis are due to an immunologically different strain against which the patient has no previous immunity. 12 references. 1 figure. 1 table.

Q Fever. HARVEY H. WALDO, Washington, D.C. U.S.A.F. Med. J. *2*:921-26, June 1951

Two cases of Q fever occurring in the same family present quite different clinical pictures and severity. One patient apparently responded well to the administration of aureomycin. The other patients did not require specific therapy for prompt recovery.

Serological studies were done at the time of diagnosis, and both one and two years after recovery. Stress is placed upon the fact that Q fever may be easily misdiagnosed as influenza or atypical pneumonia. 2 references. 4 figures.—*Author's abstract.*

Diphtheria Immunization Studies of Students in an Urban High School. GEORGE JAMES, ALLEN LONGSHORE AND JESSIE L. HENDRY. Am. J. Hyg. *53*:178-201, 1951.

Recall inoculation is a safe procedure desirable for high-school students who have not had diphtheria toxoid inoculations within five years. It resulted in relatively high antitoxin levels which persisted tthroughout the 15 month period of observation. Methanol-purified alum-precipitated diphtheria toxoid appears to be the antigen of choice for such groups of students because it induces an adequate antitoxin response and produces a markedly lower incidence of local reactions. The exact dosage to be used requires further study and can be defined only in terms of the titer of antitoxin desired and the number of reactions tolerated. It is provisionally recommended that for practical immunization programs among school-age children, a single injection of 0.5 ml. of purified precipitated toxoid be given every five years as a stimulating dose. 47 references. 4 figures. 12 tables.

Abnormal Lymphocytes ("Virocytes") in Virus Diseases other than Infectious Mononucleosis. J. LITWINS AND S. LEIBOWITZ, New York, N. Y. Acta Haemat. *5*:223-31, April 1951.

Observations of abnormal lymphocytes in the peripheral blood of patients with infectious mononucleosis, virus hepatitis, virus pneumonia, herpes zoster, herpes simplex, and roseola infantum are presented. Three types of these abnormal lymphocytes, conforming to the description by *Downey*, are observed. These three types are not exclusive of each other but probably represent transitions from one type to the other. The type III cell, most rarely seen, is observed only for a matter of hours when the blood is examined in the very early stages of illness. The abnormal lymphocyte is not specific for infectious mononucleosis but is found in a variety of virus diseases. In the virus diseases mentioned there is no qualitative difference in the appearance of these cells. In infectious mononucleosis there seems to be a quantitatively greater outpouring of these cells and a tendency to persist in the peripheral blood for greater periods of time. The name "virocyte" is proposed to connote this abnormal lymphocyte.

Present Status of Antibiotic Therapy in Viral and Rickettsial Disease. J. E. SMADEL, Washington, D. C. Bull. New York Acad. Med. *27*:221-31, April 1951.

The treatment of rickettsial diseases has been revolutionized within the past several years by the introduction of the highly specific rickettsiostatic antibiotics, chloramphenicol, aureomycin, and terramycin. These same antibiotics possess specific activity against viruses of the psittacosis-lymphogranuloma venereum group which are not too distantly related to the rickettsiae. Practically all of the other viral agents which have been studied in the laboratory are unaffected by the chemotherapeutic and antibiotic agents which are now available. While the human diseases caused by certain of these

viruses appear to be benefited by antibiotics, it is difficult to evaluate these results. In a number of such instances, however, the use of the antibiotics is warranted, even though the academic question of their mode of action remains unanswered. 13 references. 3 figures. 16 tables.—*Author's abstract.*

CHEMOTHERAPY OF INFECTIOUS DISEASES

Scarlatina and Penicillin (Scarlatine et penicilline). P. GAUTIER, Geneva, Switzerland. Rev. méd. de la Suisse Rom. *71*:237-40, April 1951.

In the treatment of three series of cases of scarlet fever in a children's hospital (40 cases), it has been found that penicillin is most effective if given early in the disease. The dosage employed has been 150,000 to 250,000 units daily for children up to fifteen years of age. This dose is equally effective whether given in two injections daily, using an aqueous solution of penicillin, or by a single injection of penicillin in oil or beeswax. In adequate dosage penicillin rapidly clears the throat cultures of streptococci and prevents both early and late complications. This makes it possible to shorten the duration of isolation; most children can be discharged from the hospital by the twelfth or fourteenth day with negative cultures; they must, however, remain under medical care at home for another three weeks. Since this method of treatment and control of scarlet fever has been employed, "return-cases," which previously occurred frequently, have not been observed.

Outline of Treatment of Pulmonary Tuberculosis. LEROY HYDE AND BERNARD HYDE, Long Beach, Calif. Ann. West Med. & Surg. *5*:453-56, May 1951.

Healing and fibrosis always occur to some extent in cases of pulmonary tuberculosis. Whichever is dominant determines the course in a given patient. Tuberculous cavities may heal spontaneously, but this is uncommon. Factors affecting the healing of a cavity are the extent of bronchial disease, size of cavity, and age of cavity. There is close correlation between the healing of endobronchial tuberculosis and the healing of pulmonary tuberculosis. The effect of collapse therapy is to exaggerate and hasten the healing process by expediting fibrosis and permitting exudative lesions to be resorbed more quickly and to aid healing by producing bronchial occlusion, reducing ventilation, reducing blood circulation, reducing lymphatic circulation, and relieving elastic stresses, and making approximation of cavity walls possible.

The foundation of medical treatment is rest, physical and mental. The duration of bedrest varies greatly with the individual, the type and extent of his disease, the color of the patient, general nutrition, etc.

Indications for collapse therapy are (1) progressive lesions, (2) cavitation, (3) failure to improve on bedrest alone, and (4) occasionally as an emergency measure to control repeated dangerous pulmonary hemorrhages. The various indications, contraindications, and complications for pneumothorax, pneumoperitoneum, phrenic interruption, thoracoplasty, and lobectomy and pneumonectomy have been tabulated.

Antibiotics are adjuncts to other forms of therapy, namely, bedrest and pulmonary

collapse. It is well to stress that every indication for collaps; therapy is an equally good indication for the use of streptomycin. In actual practice, almost every patient with far-advanced disease and most patients with moderately advanced active pulmonary tuberculosis will require streptomycin and collapse therapy in addition to bedrest. Streptomycin 1 gram daily for 30 grams and then 1 gram every other day for a total of between 60 and 90 grams would seem to be an average general course. Some patients require more than this. Appropriate collapse therapy should be induced usually no earlier than 14 to 28 days after the institution of streptomycin, except for pneumoperitoneum which may be induced immediately. It is believed that patients whose tubercle bacilli are resistant to streptomycin *in vitro* should nevertheless be treated with adequate doses of streptomycin since many of these patients will improve greatly on this regimen. Streptomycin is only the first of a series of antibiotics against the tubercle bacillus—potent, life-saving, but somewhat toxic and not ideal. It is hoped that other more potent and less toxic tuberculostatic agents will be found. 5 references. 5 tables. —*Author's abstract.*

Neomycin Therapy. E. R. KADISON, I. F. VOLINI, S. J. HOFFMAN AND O. FELSENFELD, Chicago, Ill. J. A. M. A. *145*:1307-12, April 28, 1951.

Two patients with atypical pneumonia, three with brucellosis, five with salmonellosis and shigellosis, ten with other gram-negative organisms, and eleven with tuberculosis were treated with neomycin. The results were encouraging except in advanced cases of tuberculosis and in brucellosis. There were, however, undesirable side reactions, as loss of hearing in four patients and kidney disturbances. 5 references. 7 figures. 5 tables.—*Author's abstract.*

A Report on the Safety and Therapeutic Effectiveness of Parenterally Administered Chloromycetin by the Intramuscular and Intravenous Routes. VINCE MOSELEY AND WADDY G. BARODDY, Charleston, S. C. J. South Carolina M. A. *47*:157-59, May 1951.

An evaluation of the therapeutic effectiveness of chloromycetin when administered by parenteral routes has been made in 38 different patients. With the intravenous and intramuscular administration of chloromycetin, which was dissolved in acetyl dimethylamine, the drug was found to be very effective, and no instances of untoward reactions were observed in this series, except in one instance when the medication was not given deeply enough for an intramuscular injection and an area of tissue necrosis occurred.

The blood levels, observed after the intravenous administration of 1 Gr. of the drug dissolved in 4 cc. of acetyl dimethylamine and further diluted to 300 cc. with physiological saline solution, indicated that very high levels up to 14 μg./cc. were maintained for as long as 4 hours after the period of administration, but a sharp fall in the serum concentration occurred after the fourth hour and by the eighth hour levels below those therapeutically desirable occurred.

The blood levels, observed in patients given the drug by the intramuscular route in 0.5 to 1 Gr. doses dissolved in 2 cc. to 4 cc. of the acethyl dimethylamine, indicated that by this route levels in a therapeutically desirable range could be maintained for 6 to 8 hours after single doses. With maintenance doses of 250 mg. Q 6 hours, blood

levels were observed to remain constant at a range of between 3 and 5 μg./cc. The levels of chloromycetin observed after the intramuscular administration of the drug were almost identical with those observed after the oral administration of equivalent single doses.

In the authors experience up to the date of the report, chloromycetin had been administered intravenously to 11 patients of the total group of 38 patients reported on and intramuscularly to 34 of these patients. The diseases treated were of a varied group and included bacterial pneumonias, viral pneumonias, endemic murine typhus, paratyphoid B, and urinary tract infections. The age of the patients varied from 7 months to 75 years.

Serum concentrations were determined by the microbiological assay method. *Shigella sonnei* was the test organism used. 2 references. 1 table.—*Author's abstract.*

Chemotherapy in Pulmonary Tuberculosis. R. A. GOODWIN, JR., Nashville, Tenn. Am. Pract. 2:505-08, June 1951.

A consideration of certain aspects of the host-parasite relationship in pulmonary tuberculosis is important in an understanding and evaluation of the role of the present chemotherapeutic agents used in the management of the disease. The slow and uncertain mechanisms of resistance of the host, characteristic of the chronic infection, and the host time response where caseous necrosis and fibrous encapsulation tend to protect the enclosed organisms, limit the effectiveness of the known tuberculosis agents.

Streptomycin remains the most effective of the present chemotherapeutic agents used in the treatment of tuberculosis. The drug exerts a bacteriostatic rather than bactericidal effect. There is no evidence that the drug qualitatively alters the normal healing processes. Resolution of acute, non-necrotic exudate occurs more rapidly in the presence of the antibiotic. Necrotic disease must still heal by the slow mechanisms of fibrosis and fibrous encapsulation.

Streptomycin has proved to be a valuable drug in the management of pulmonary tuberculosis although rarely, if ever, could it be considered as definitive treatment alone. In general, the antibiotic is used to best advantage in acute inflammatory disease, in acute life-threatening disease, and as an adjunct to surgery.

Para-aminosalicylic acid is widely used in the treatment of human tuberculosis. Its bacteriostatic effect is qualitatively the same as streptomycin, but quantitatively definitely inferior. This drug has proved to be most valuable in two capacities: in the treatment of streptomycin-resistant disease and, more important, in combination with streptomycin in order to prolong the sensitivity of the latter drug.

The Thiosemicarbazones (TB-I) appear to be too toxic for widespread use in clinical tuberculosis. Neomycin and Mycomycin have not proved as yet to be promising drugs. Preliminary studies suggest that Vicomycin has moderate promise as a tuberculostatic antibiotic.

The important effect of the present chemotherapeutic agents used in the management of pulmonary tuberculosis is control of the acute inflammatory phases of the disease, affording later healing on the rest cure and with the use of collapse of surgical procedures when indicated.—*Author's abstract.*

An Expanded Use of Streptomycin and PAS. WILLIAM H. OATWAY, JR. AND FRANKLIN READING, Los Angeles, Calif. Arizona Med. *8*:26-31, May 1951.

Streptomycin and PAS compounds may be used widely, early, with good effect, and safely if they are used together and in certain routines. These facts have been noted in a summary of usage at the Barlow and La Vina Sanatoria of the Los Angeles area.

Resistance to streptomycin has been rare. A survey was made in January 1950 of all patients who had previously been given streptomycin. Sixteen per cent of 87 ex-patients had some degree of resistance, although the degree was variable in several. Six per cent of 51 in-patients had resistant strains. None of those with resistance had taken PAS during the major use of streptomycin.

Large doses of streptomycin (without PAS) had been given to 17 patients before 1949. They received an average of 163 grams. Only 36 per cent of those who could be tested had lost their sensitivity.

No resistance has developed in 148 cases given streptomycin and PAS compounds since January 1950. The drugs used were dihydrostreptomycin sulfate (in half gram daily doses for six weeks, or one gram twice a week for three months) and PASNA, a coated granule of sodium para-aminosalicylate (given three times daily for a total of 15 grams). The PASNA is better tolerated, although more expensive than the powder, and was proved to produce a suitable blood level. Plain Sodium PAS is agreeable to three-fourths of the patients. About 2.5 per cent of each series showed a specific reaction to PAS; the two cases at La Vina were desensitized.

It was decided in November 1949 that certain cases were marking time, with occasional positive bacterial studies, no visible cavitation, with or without collapse therapy present, and no change for 4 to 6 months. Forty cases were started on chemotherapy and followed 6 to 9 months after its completion. Eighty per cent became negative, although 12.5 per cent shifted each way at a later date. Collapse therapy converted half of the residual positives.

Fourteen cases with minimal lesions and minimal infectiousness were given PASNA alone; 13 converted to negative, and 10 (or 70 per cent) remained that way. A miscellaneous group of 9 cases with necrotic lesions showed only one case negative in the follow-up.

A series of 16 cases with cavitation were treated with both drugs. Only three became negative at the end of therapy, but six more converted later by reason of collapse therapy.

The use of chemotherapy at La Vina has been on a variety of cases, and 90 and 98 per cent of two series have received the drugs. The impression at present is that prolonged, intermittant therapy with a streptomycin and a PAS compound is the method of choice.

In all of these series it is evident that an existing collapse therapy is often aided by the drugs, but also that the drugs are most effective and certain when a collapse or resection is added. The necrosis factor causes the continued positive sputum, relapses, and the need for local therapy.—*Author's abstract.*

Studies on Antibiotic Synergism and Antagonism. The Effect of Sulfadiazine on the Action of Penicillin in vitro and in vivo. J. B. GUNNISON, R. S. SPECK, E. JAWETZ AND J. A. BRUFF, San Francisco, Calif. Antibiotics and Chemotherapy *1*:259-66, July 1951.

Sulfadiazine interferes with the bactericidal action of penicillin *in vitro* against *K. pneumoniae*. Antagonism is evident at the time of maximal sulfadiazine action (six to ten hours of incubation), but not during the first four to five hours of incubation when organisms exposed to sulfadiazine multiply at a normal rate. Interference does not occur with concentrations of penicillin so rapidly bactericidal that no organisms survive beyond six hours. The two drugs together are more likely to ultimately kill all exposed bacteria, although at a slower rate, than is penicillin alone.

In mice experimentally infected with *S. pyogenes* there is no interference with the therapeutic effect of penicillin when sulfadiazine is administered simultaneously or up to two hours before the penicillin. Marked antagonism occurs when sulfadiazine is given five to seven hours prior to penicillin. Whereas penicillin alone cures 95-100 per cent of the mice, only 20-40 per cent of animals receiving both drugs survive.

The antagonism of sulfonamides to penicillin is compared with that of chloramphenicol, aureomycin, and terramycin. Reasons for discrepant reports of the combined action of sulfonamides and penicillin are discussed. 25 references. 2 figures. 2 tables. —*Author's abstract.*

Procaine Penicillin in Oil with Aluminum Monostearate and Pectin-Treated Potassium Penicillin. HENRY WELCH, W. A. RANDALL, C. W. PRICE AND F. D. HENDRICKS, Washington, D. C. Antibiotics and Chemotherapy *1*:245-8, July 1951.

Procaine Penicillin in oil with aluminum monostearate (PAM) may be less effective than aqueous parenteral penicillin in the treatment of certain serious infections because of the tendency toward lower "peak" penicillin serum concentrations. The mere addition of a soluble penicillin salt to PAM does not entirely correct this, since the hydrophobic nature of the aluminum monostearate gel delays absorption of both the procaine and soluble penicillin salts. A method is described in which potassium penicillin crystals and pectin are coprecipitated from aqueous solution by the addition of methyl alcohol to furnish a new preparation, in which the penicillin crystals are in intimate contact with pectin, a known hydrophylic substance. When preparations of PAM were fortified with this potassium penicillin-pectin preparation and injected intramuscularly, "peak" serum penicillin concentrations higher than those obtained with PAM fortified with a similar amount of untreated potassium penicillin were obtained. The "peak" serum penicillin concentrations more nearly approached those given by aqueous parenteral penicillin. 3 references. 2 tables.—*Author's abstract.*

RESPIRATORY DISORDERS AND DISEASES

Streptomycin Para-Aminosalicylate in the Treatment of Pulmonary Tuberculosis. E. DUNNER, St. Louis, Mo. Dis. of Chest. *19*:438-43, April 1951.

Twenty patients with progressive pulmonary tuberculosis received daily injections

of the PAS salt of streptomycin for 90 days. The para-aminosalicylic acid salt of streptomycin is a highly purified compound consisting of 56 parts of streptomycin base and 44 parts of PAS. The original observations in animals treated with this salt by Dr. Gladys Hobby indicated that the small amount of PAS present in the molecule is sufficient to exert a synergistic effect with streptomycin. Therapeutic results in the series of patients reported in this article indicate that the PAS salt of streptomycin is effective but not superior to streptomycin alone. The rate of development of resistant strains of tubercle bacilli was delayed beyond the 60 day period of treatment but not beyond 90 days. A slightly higher ratio of PAS to streptomycin than is contained in the salt appears indicated in order to further delay-resistant strains of tubercle bacilli from developing in man. 11 references.—*Author's abstract.*

The Treatment of Minimal Pulmonary Tuberculosis Confined to the Apex of One Lung. A. L. PAINE, Ninette, Canada. Am. Rev. Tuberc. *63*:644-56, June 1951.

A study is presented of 103 patients with minimal tuberculosis confined to the apex of one lung. All had hospital treatment for three months or more and were followed for at least five years from admission. Forty-five per cent were followed from 10 to 25 years after admission to the hospital.

An analysis was made of the factors influencing the outcome of treatment with special reference to progression of disease. As indicated in the title, all lesions were apical. Lesions in various parts of the apex were all found to behave similarily. Erythrocyte sedimentation rate had no prognostic significance in this series. Patients with positive sputum on admission did as well as those with negative sputum. The evidence of progression was greater in younger age groups with exudate-productive lesions which showed the greatest instability. The evidence of progression became progressively less with longer hospital treatment. The most important single factor in reducing the incidence of progression of disease was the use of collapse therapy.

The progression rate was 56 per cent for those treated with bed rest alone, 19 per cent for those with collapse therapy, and 27 per cent for the entire series. Of the 103 patients, 70.8 per cent were treated with pneumothorax, and of these approximately one-half had sputum negative for acid-fast bacilli at the time of induction. Pneumothorax should be maintained for approximately three years. In patients taking pneumothorax, progression rate was 15.8 per cent, in those with adequate collapse, and 37.5 per cent where collapse was inadequate. As regards complications of pneumothorax, there was no instance of air embolis or accidental pneumothorax requiring unusual measures. Four patients developed extensive fluid of which two were empyematic but cleared with treatment. The most feared late complication of pneumothorax is retraction with interference in respiratory and cardiac function. Retraction was moderate in 34 per cent and marked in 8 per cent. Only 2 patients complained of dyspnoea after termination of pneumothorax.

Concerning the present status of the whole group, the lesions of 94 patients are arrested, or apparently cured; the disease of 6 patients is still unstable; two patients are dead from tuberculosis and one from nontuberculous causes. The high percentage

of good results in this series is attributed to the early application of collapse treatment. 5 references. 1 figure. 10 tables.—*Author's abstract.*

The Prognosis of Tuberculous Pleurisy. S. FROSTAD, Molde, Norway. Acta med. scandinav. *139*:341-57, April 30, 1951.

More than half the cases of pleurisy discussed appear in the age group between 16 and 25 years. Most cases of pleurisy begin in the months of February to June. The tuberculosis morbidity and mortality are highest in the first 5 years after the pleurisy, as 81 per cent of the tuberculous cases and 83 per cent of the deaths occur in this period. In cases of tuberculosis of the lung, the tuberculosis in about 16 per cent of the cases occurred later than 10 years after the pleurisy. Both the morbidity and the mortality for tuberculosis are lower in patients below 15 years of age than in adults; thus it apparently tends to increase with increasing age. Males and females have about the same morbidity and mortality in this group. Both the morbidity and the mortality for tuberculosis are decidedly lower in cases of pleurisy in the 10-year period 1926—35 as compared with a corresponding group from the preceding 10-year period (1916—25).

Asymptomatic Active Pulmonary Tuberculosis. G. ARNOLD CRONK, DEXTER LUFKIN, THOMAS L. RYAN, Syracuse, N. Y. U. S. A. F. Med. J. *2*:887-91, June 1951.

There were 1,188 patients admitted to a sanitorium with active pulmonary tuberculosis, who were studied and classified as to origin either by (1) routine chest x-ray (859 patients) or (2) symptomatology (329 patients). Of the former group 36.3 per cent were minimal cases of pulmonary tuberculosis as contrasted with 16.7 per cent of the latter group. Of group one 63.7 per cent and of group two 83.1 per cent had moderately advanced or far advanced pulmonary tuberculosis. Those cases diagnosed basically because of a routine chest x-ray which revealed many unrecognized symptoms of tuberculosis; 39.8 per cent of the minimal cases, 53.1 per cent of the moderately advanced cases and 67 per cent of the far advanced cases. Symptoms of cough, hemoptysis, loss of weight, chest pain, etc., in patients who considered themselves healthy were rationalized to inocuous causes. The need for routine chest x-ray procedures to enhance the finding of minimal cases of pulmonary tuberculosis is statistically demonstrated. The large number of misinterpreted symptoms of tuberculosis should stimulate augmented lay education as part of our overall control program. 3 references. 5 tables. —*Author's abstract.*

Acetylcholine and Cholinesterase in the Blood of Patients Suffering with Bronchial Asthma. HAROLD H. SCUDAMORE, LOUIS J. VORHAUS II, AND ROBERT M. KARK, Chicago, Ill. J. Lab. Clin. Med. *37*:860-66, June 1951.

One hypothesis which has been advanced to explain the pathologic physiology of bronchial asthma suggests that an imbalance of the autonomic nervous system may play a role in the causation of this disease. The autonomic imbalance could be produced by alterations in the cholinesterase enzyme system or parasympathetic-sympa-

thetic nervous system leading to increased quantities of acetylcholine at the end organs. Much indirect evidence has been accumulated to indicate the importance of acetylcholine, but excessive amounts of this substance have never been demonstrated in the blood or tissues of asthmatic patients. Observations on both serum acetylcholine levels and cholinesterase activity of the blood of healthy persons and patients ill with asthma are reported. Acetylcholine determinations were made using the isolated clam heart technique; plasma and erythrocyte cholinesterase measurements, according to the potentiometric method of Michel.

The results of the acetylcholine determinations, performed on serum from eight patients with asthma, when compared with the measurements on serum from 14 healthy adults, showed that one-half of the asthmatics had levels above the upper range of normal and that the remainder had high normal levels. All values were more than twice the mean level of the healthy individuals. The difference between the means of the healthy group and the asthmatics was statistically significant. There was no significant difference in plasma or erythrocyte cholinesterase activity between 14 asthmatic patients and 14 healthy individuals.

The observation of significantly elevated levels of acetylcholine in the serum of patients ill with asthma is suggestive evidence of increased parasympathetic activity but may be the result as well as the cause of asthma. Alterations in the cholinesterase enzyme system probably are not important in the causation of asthma. The results emphasize the need for further study of possible autonomic nervous mechanisms involved in the production of asthma. 29 references. 2 figures. 3 tables.—*Author's abstract.*

CARDIOVASCULAR DISORDERS AND DISEASES

Mechanism of Flutter and Fibrillation. DAVID SCHERF, New York, N. Y. Bull. New England M. Center. *13*:97-101, June 1951.

This article represents a review of the experiments performed by the author between 1926 and 1950 on the mechanism of auricular flutter and fibrillation. A broad ligature applied across the sinus node and neighboring tissues neither stopped nor modified auricular flutter. This finding was at variance with the most widely accepted theory of circus movement as the cause of flutter. Later it was discovered that application of a few crystals of aconitine on the auricle of the dog led within a few seconds to the appearance of auricular flutter or fibrillation. Cooling of the area of application stopped either arrhythmia immediately, and they reappeared when the cooling was discontinued. From this it was concluded that rapid stimulus formation in a center is responsible for these disturbances. Cautious cooling transformed fibrillation into flutter and then into auricular extrasystoles demonstrating that stimulus formation in one center may be responsible for all these arrhythmias. Whenever flutter existed, stretching of the auricle caused fibrillation for the duration of the stretch. Even after flutter and fibrillation had subsided, stretch made them reappear immediately. The importance of these findings for the clinic is discussed. It was shown furthermore that auricular fibrillation caused by faradization, acetylcholine, and other agents could only be stopped by simultaneous cooling of the sinus and the A-V node. Thus at least two

types of fibrillation, that originating in one and that originating in more than one center was discovered. In all arrhythmias which are maintained by a focus firing rapid stimuli, secondary local circus movements may appear which do not maintain fibrillation, but are a part of it. 13 references.—*Author's abstract.*

Effect of Cortisone on Experimental Production of Arteritis by Passive Sensitization. SHELDON G. COHEN AND CAMPBELL MOSES, Pittsburgh, Pa. J. Lab. Clin. Med. 37:764-70, May 1951.

The exact relationship of the adrenal cortex to the immune response is not clear, but it does appear that adrenal cortical steroids exert a definite effect on immune and allergic mechanisms. Heretofore, the effects of cortisone and ACTH have been studied on the experimentally-produced vascular lesions in actively sensitized animals with a suppressive effect noted. But in that type of experiment, two factors in the immune response come into play: (1) antibody production and (2) antigen-antibody union, and thus the effect of the hormone on each individual process cannot be distinguished. However, by utilizing the procedure of passive sensitization, the important mechanism is that of an *in vivo* antigen-antibody union, and any effect that cortisone might exert on lesions thus produced, can be attributed to its action at this point in the immune process.

Fourteen albino rabbits of the same strain and approximate age and weight were passively sensitized to and challenged with horse serum according to a procedure favoring the production of acute lesions of periarteritis and panarteritis of the pulmonary arteries and arterioles. Cortisone was administered to seven of the animals for 24 hour periods prior to and following sensitization. All of the sensitized animals that had not received cortisone developed the typical lesions of panarteritis and periarterial infiltration of eosinophiles and to a lesser extent of lymphocytes and polymorphonuclear leucocytes, and eosinophilic infiltration into the media and intima of the small pulmonary arteries and pulmonary arterioles. Those sensitized animals that had also received cortisone exhibited less extensive and modified type of lesions consisting of a light periarterial infiltration of lymphocytes and polymorphonuclear leucocytes of the pulmonary arterioles. Eosinophiles were only rarely seen.

The results indicate that, when cortisone was administered prior to and following passive sensitization to horse serum, the lesions of experimentally produced arteritis in rabbits appear to be modified though not completely suppressed. The lesions of panarteritis of the pulmonary arterioles were not found, and those of a periarteritis appear to be attenuated. The reason for this is not clear, although it is thought that perhaps cortisone exerts an effect upon the *in vivo* union of antigen-antibody or may influence the tissue response evoked by antigen-antibody reaction. 25 references. 2 figures.—*Author's abstract.*

Action of the di-Hydrogen Derivatives of Ergot in Arterial Hypertension (Action des dérivés di-hydrogénés de l'ergot dans l'hypertension artérielle). R.-L. DURET, Hôpital de Saint-Gilles, Brussels, Belgium. Acta clin. belg. 6:85-106, March-April 1951.

The drug employed by the author in the treatment of hypertension is Hydergine

(CCK 179), a combination of three dihydrogen derivatives of ergotoxine. Animal experiments and clinical results indicate that such derivatives of ergotoxine have definite hypotensive and adrenosympathicolytic action. Twenty patients with hypertension have been treated with Hydergine; treatment was begun by the oral administration of the drug in a dosage of 25 to 40 drops three times a day. In cases of malignant hypertension or in other cases in which response to oral treatment was not satisfactory, intramuscular injections of Hydergine were also given, the dosage being 0.3 mg. daily or every other day. The treatment was continued for three months. There was very definite improvement in subjective symptoms in 17 of 20 patients (85 per cent); in 6 of these the subjective symptoms were completely relieved. In 16 cases there was a 10 to 25 per cent reduction in blood pressure as compared with the lowest level previous to the beginning of treatment. A statistical study, taking account of the known variability in blood pressure before treatment was begun, showed that Hydergine tended to stabilize the blood pressure. In 16 cases in which the response to treatment was favorable, the average reduction in blood pressure was 45 mm. Hg. systolic and 20 mm. diastolic. In 30 per cent of cases the reduction in blood pressure and improvement in subjective systems was maintained two months after treatment was completed. No toxic symptoms were observed in the cases treated with Hydergine; it cannot be regarded as an ideal treatment for hypertension, but it represents a definite addition to therapy, especially because of its low toxicity. 19 references. 5 tables. 6 figures.

Aneurysm of the Heart and the Electrocardiogram. O. NORDENFELT, Jonkoping, Sweden. Acta. med. scandinav. *139*:368-78, April 1951.

In a medical clinic with a turnover of approximately 2,000 patients annually, all cases with electrocardiographic changes of the following form have been registered: remnants of previous infarcts in lead I (deep QI or somewhat elevated S—T segment with or without negative T waves), deep SII and SIII waves not exceeding 0.12 seconds in width with positive T waves, and in lead IV (CR 5) deep Q or S waves with distinctly elevated S—T segment.

Only 9 such patients were encountered.

In 7 of these cases large cardiac aneurysms could be diagnosed, by autopsy in 3 and by x-ray examination in 4 cases. In one case acute cardiac aneurysm may have been present according to the clinical examination, but the opportunity did not arise to verify the diagnosis radiologically or by autopsy. Finally, the last case concerned a fresh cardiac infarction, and the electrocardiographic changes did not persist.

The conclusion is made, that in patients with the E. C. G. changes described above, persisting for months, a large cardiac aneurysm is as a rule encountered in the anterior wall or apical region of the left ventricle.

Alpha Tocopherol (Vitamin E) in Obliterative Arterial Disease. ARTHUR VOGELSANG, London, Canada. Internat. Rec. Med. *164*:353-57, July 1951.

The author used the method of alpha tocopherol therapy, which he originated, on 72 cases of obliterative arterial vascular disease. Of 18 cases of *Thromboangiitis obli-*

terans, 17 responded successfully. Of 12 cases of diabetic gangrene and perforating ulcers all responded. Of 42 cases of arteriosclerotic gangrene and indolent ulcers, 41 responded beneficially. No other treatment was used; in cases of Buerger's disease smoking was not stopped. Details of specimen cases are given. Dosage was 600—700 international units of alpha tocopherol by mouth daily in all cases except the diabetics. These latter were given 300 units daily.

This agent in sufficient dosage exerts a capillary dilating effect in those areas in which the blood supply has been inadequate. By an effect which encourages the growth of new capillaries into old sclerotic fibrous tissue promoting resorption of scar tissue, the collagenous tissues are repaired. This effect is not produced by relieving a vitamin deficiency. To maintain the improvement, the medication must be continued at a high level indefinitely, and when the medication is halted, the symptoms will reappear.

A patient who responds will always respond to the same dosage, i.e., no tolerance is developed.

The Surgical Management of Diseases of the Aorta and Other Arteries. ALEXANDER BLAIN, Ann Arbor, Mich. Quart. Rev. Surg. *8*:73-90, June 1951.

The number one vascular problem is *arteriosclerosis obliterans*, and this is increasing as the age of the population in general increases. Conservative treatment includes the use of indirect heat, either by avoiding cold weather or by obtaining reflex vasomotor dilatation by means of warmly dressing all extremities, including the head and neck.

The third method of obtaining heat is in the use of alcohol for vasodilatation. All other vasodilator drugs are essentially without value in the treatment of symptomatic arteriosclerosis obliterans. The combined use of all known vasodilator drugs cannot counteract the effect of the leading vasoconstrictor drug, nicotine. When good conservative management fails to control the symptoms, then sympathectomy should be considered for its value as both prophylactic and therapeutic. A limb salvage rate of about 70 per cent has been obtained at the University of Michigan and at the Alexander Blain Hospital in a two to three-year follow-up period.

The increasing use of the transmetatarsal amputation of McKittrich in the presence of dry gangrene has been a notable advance. While not always successful, many legs are salvaged which would have been subjected to supracondylar amputation only four or five years ago.

Arteriosclerotic popliteal aneurysms are now handled successfully by preliminary lumbar sympathectomy followed by aneurysmectomy (Linton).

Thromboangiitis obliterans, or Buerger's Disease, which most commonly affects young males under the age of 45 who are heavy smokers, can be cured if the smoking habit can be conquered. The increasing use of earlier sympathectomy as a substitute for amputation in cases where necrosis or gangrene of the digits is threatened has been of great value, provided that patients with this disease cease smoking postoperatively. Continued care by an interested physician or surgeon with special attention to psychosomatic factors is one of the most important features in therapy for this disorder.

About one-fourth of patients with true Raynaud's disease will have their symptoms progress to a point at which tissue is lost, or to a point where pain and other symptoms necessitate sympathectomy. Most of the patients are young women who have other evidence of vasomotor instability.

Patients whose attacks can be precipitated only by cold, or in whom functional factors are not particularly prominent, especially if the onset of their disease is before the age of 15 or after the age of 35, are not likely to progress to tissue loss or the need for operation. Recurrence of symptoms following dorsal sympathectomy is diminished when a more radical postganglionic operation, including excision of the stellate ganglion through the fourth thoracic ganglion and intraspinal section of preganglionic fibers is done. Recurrences following the preganglionic operation devised by Smithwick and Telford are usually due to regeneration of sympathetic fibers.

Most patients with severe hyperhydrisos respond to the use of Banthine as recommended by Grimson.

Appropriate sympathectomy is useful in the treatment of sympathetic reflex dystrophy (Sudeck's Atrophy) and in many cases of post-traumatic causalgia.

The *scalenus anticus* syndrome is becoming more widely recognized and understood. Scalenotomy and resection of cervical ribs when present have given uniformly excellent results in my experience.

Essential arterial hypertension is second only in importance to arteriosclerosis and there is now sufficient evidence of the beneficial effects of both medical and surgical therapy to put an end to the rather bitter debate regarding treatment. At the Alexander Blain Hospital patients with progressive hypertension, below the age of 60, who have hypertensive headaches and other symptoms, and Grade 2-4 fundi (Keith-Wagner Scale) are subjected to bilateral splanchnicectomy and thoracic sympathectomy (D5-D12) in one stage. In about one-half the patients a bilateral lumbar sympathectomy (L 2, 3 and 4) has been carried out as a second stage. All patients are under the postoperative management of internists and are on potassium thyocyanate, low sodium diets, and other medical measures. In a series of 18 patients subjected to this operation there has been one death. The remaining patients have all been more responsive to medical management than they were preoperatively and their symptoms have been ameliorated, though we have not had uniformly significant sustained blood pressure falls.

Some patients are alive and well at the end of a three-year period during which time they might have been expected to die of their hypertension.

Cervical sympathetic and stellate ganglion blocks have been observed to be of value in a percentage (30 to 40) of cases of apoplexy due to thrombosis or embolism. The treatment of apoplexy in general is now more aggressive than formerly with improved results.

Arterial ligation, both splenic (A. W. Blain), and hepatic and splenic (Reinhoff), are being studied as possible adjuncts to the treatment of portal hypertension. The former operation has a lower mortality rate and a logical basis. The latter operation requires further study before it can be recommended for general use.

The general physiologic effects of arteriovenous fistulae are now widely appreciated.

It is well known that these fistulae must be closed after the development of adequate collateral circulation. Appropriate sympathectomy often aids in the development of collateral circulation and in the postoperative closure of the fistulae. Either a quadruple ligation is necessary or the artery may be reconstructed using the transvenous approach. In the latter cases the vein must be ligated above and below the excised communication.

The first patent *ductus arteriosus* to be cured was ligated by Gross only about twelve years ago. This fairly common congenital defect is essentially an arteriovenous fistula of the aorta as there is a mixing of oxygenated arterial blood with the oxygen-pure blood in the pulmonary artery.

Ligation of the patent ductus represents a triumph of arterial surgery in the past decade. A typical case is reported.

The Electrocardiogram in Patients with Mediastinal Shift to the Left. WILLIAM WEISS, Philadelphia, Penn. Am. Rev. Tuberc. *64*:64-70, July 1951.

The unipolar electrocardiogram was studied in 10 patients with varying degrees of mediastinal shift to the left. The shift was due to reduced left lung volume in 7 cases and to left pneumonectomy in 3 cases. Pneumoperitoneum was also present in 2 of the former and in 2 of the latter cases.

Eight patients showed right axis deviation, and 7 showed a vertical electrical position in the unipolar limb leads. The most consistent change in the multiple precordial leads occurred in the T wave pattern. These T waves were flattened or inverted on the right side of the precordium, and the degree of abnormality was best correlated with the degree of mediastinal shift.

Other than the factor of mediastinal shift, one must consider the influence of pneumoperitoneum, of pneumonectomy, and of possible subclinical *cor pulmonale* in such cases as these. Pneumoperitoneum and pneumonectomy were considered to have very little to do with the electrocardiographic abnormalities except through their influence on mediastinal shift. However, the factor of possible subclinical chronic *cor pulmonale* could not be evaluated without cardiac catheterization. It is quite possible that subclinical *cor pulmonale* may produce T wave changes before it has progressed far enough to produce the typical QRS pattern of right ventricular hypertrophy, and this factor may be added to the factor of mediastinal shift in producing the electrocardiographic changes described. 11 references. 1 figure. 1 table.—*Author's abstract.*

Shoulder-Hand Syndrome Following Myocardial Infarction. DANIEL M. SWAN AND JOHN M. MCGOWAN, Quincy, Mass. J. A. M. A. *146*:774-77, June 30, 1951.

Reflex dystrophy of the upper extremity, often producing serious disability, has been receiving increased attention in recent years. Although the syndrome is due to many different causes, the underlying neurovascular mechanism is probably the same. Many clinicians, from Osler on, have noted the onset of a painful disability of the shoulder or hand, or both, following myocardial infarction or long-standing angina pectoris. The signs and symptoms of the postmyocardial infarction type of the shoulder-

hand syndrome are not specific and resemble those of sympathetic disturbances due to other causes. Steinbrocker and associates list the causes of reflex dystrophy of the upper extremity as observed in 42 cases, in the following order of frequency: (1) idiopathic, (2) postmyocardial infarction, (3) post-traumatic, (4) posthemiplegic, (5) postherpetic, (6) diffuse vasculitis, (7) cervical osteoarthritis, (8) panniculitis, and (9) gonorrheal arthritis. The mechanism is considered to be one of reflex neurovascular dystrophy, in which the vasomotor and trophic symptoms presumably result from reflex stimulation of the sympathetic nerve supply. The clinical course of this syndrome is divided into three stages, which may last weeks or months and may vary from mild stiffness and aching of the shoulder and hand to marked disability, atrophy of the hand and subcutaneous tissues, contractures, and subluxations. Treatment of this type of disability in the past has consisted primarily of physical therapy and x-ray therapy. We have used local block therapy by infiltrating the stellate ganglion by the anterior approach with procaine hydrochloride. The method used was developed by one of us (J.M.M.) and is suitable for use in the office or clinic as well as the hospital. This form of therapy breaks up the "vicious circle" which is set up through the internuncial pool of active stimuli in the cord, provoked by the primary etiological condition, and in the majority of cases relieves the pain, muscle spasm. and disability. The shoulder-hand syndrome occurs in approximately 10-20 per cent of cases of myocardial infarction. A series of cases is reported in which results of stellate block treatment were uniformly beneficial. The technique of stellate ganglion block by the anterior approach is described. 5 references. 3 figures.—*Author's abstract.*

The Treatment of Congestive Failure. E. GRAY DIMOND, Boston, Mass. J. Kan. Med. Soc. *52*:120-21, March 1951.

The treatment of congestive failure has reached the unfortunate state in which the method has become patterned. The doctrine of rigid sodium restriction, intensive mercurial diuresis, and fixed digitoxin program has resulted in excellent therapeutic results for many. However, for many others it has resulted in unpalatable diets, marked salt water depletion, and unsatisfactory digitalization.

It is the rare patient who needs his total digitalis effect within six hours. The routine use of 1.2 mg. of digitoxin as a single initial dose is more dramatic than therapeutic. The choice of digitalis preparation is unimportant; remember that the multitude of products available vary in speed of action, not in method of action. Among many physicians there has been a recession from digitoxin to the dried leaf. This has been occasioned by the too enthusiastic use of digitoxin, not because digitoxin has any inherent toxicity not also present in the dried leaf.

The term "digitalize" means to give enough of the drug "to obtain the desired therapeutic effect or until toxic symptoms occur." The desired therapeutic effect is compensation of the failing heart, and any arbitrary rule as to what is the necessary amount should not keep the physician from giving less or more. Consider the frequently quoted system of 1.2 mg. of digitoxin as but a warning that you have given a fair quantity of the drug, but unless you have achieved the desired effect (beginning compensation), continue giving the drug until the effect is reached or until toxic symptoms

occur. For example, in the average case a base dose of .6 mg. of digitoxin by mouth may be given, then every six hours give .2 mg. additional dose. Continue this additional .2 mg. until you reach the desired effect or, if toxic symptoms occur, stop the medication until the symptoms pass, and then place on a daily dose. This technique permits you to explore cautiously the given patient's tolerance, and if you exceed this tolerance you will do so by only .2 mg. of digitoxin. The range of requirement for therapeutic effect can vary from .8 to 3.0 mg. of digitoxin, for example.

This logically leads to the question, "What is the daily maintenance dose?" The answer is, "Enough to maintain digitalization." Such an answer is not meant to beg the question but is given to indicate that again there is no rule to govern the daily requirement. For the majority, it is probably .15 mg. daily, but there are many others who will require .1, or .2, or .3 mg. daily. The technique of redigitalization is little used but should have wider application. For example, if a patient has been digitalized and then placed on a daily ration of .15 mg., it is a good therapeutic measure, after two or three weeks, to increase the daily amount in an effort to explore the margin of toxicity. If doubling the daily ration to .3 mg. for four or five days does not result in toxic symptoms, it is apparent that the original .15 mg. allotment was inadequate. Such a reevaluation may be done periodically.

The restriction of sodium is important, but remember that the maintenance of nutrition is vital. A rigid enthusiasm for restriction will not infrequently result in a disagreeable patient, who complains bitterly of the tasteless diet, refuses his tray, and is unable to maintain his nutrition. A moderate restriction of four to five grams of salt a day will allow a fairly palatable diet. It is appreciated that occasional cases will need further restriction, and when necessary the intake can be reduced to 200 mg. of sodium daily; refractory failure warrants intensive restriction.

However, it should be remembered that the mercurial diuretics offer an excellent method of ridding the body of its sodium. The urine of an individual, following mercurial diuresis, will not only be increased in volume but also in the percentage composition of sodium. The mercurials increase the renal loss of sodium per unit of renal water. This fact should be more widely utilized in permitting a greater latitude in regard to the dietary sodium. In an elderly individual, for whom eating represents one of the scant pleasures remaining, it seems wise to allow a palatable amount of salt with the food, and to counteract its edema formation tendency by more frequent mercurials.

The above statement must be qualified by reference to the dangers of overenthusiastic diuresis. With the enthusiastic adoption of marked sodium restriction and intensive mercurial diuresis, physicians have been seeing a phenomenon which was formerly limited to such states as Addison's disease and postoperative patients. This state is characterized by weakness, loss of appetite, leg cramping, loss of interest, and somnolence. These are the symptoms of salt water depletion. If the diuresis is carried too far, kidney failure and irreversible uremia may occur. When such an event is initiated, the physician must make an about face and give sodium chloride by mouth or vein. Such problems can be avoided if the dosage of the mercurial is kept small and if the patient is questioned following each diuresis for the symptoms above described. The

intramuscular administration of .5 cc. of mercuhydrin, for example, will cause a moderate weight loss of two to three pounds, which seems far more physiological than eight to 10 pound flood, followed by weakness and leg cramps. The patient can be taught to follow his weight at home and to give his own intramuscular or subcutaneous mercurial, when he notes a three or four pound weight increase.

Oral Hexamethonium Bromide in Essential Hypertension. W. ARTHUR MACKEY AND GAVIN B. SHAW, London, Eng. Brit. Med. J. *4726*:259-65, August 4, 1951.

The work described in this paper was an attempt to determine whether the manifestations of essential hypertension could be effectively controlled, over a prolonged period, by a relatively simple, oral drug-therapy. The drug used was "hexamethonium bromide" (bistrimethylammonium-hexane-dibromide). It was based essentially on the work of Paton and Zaimis (1949), who showed that injections of this drug in animals led to a fall in blood pressure; and secondly, on that of Kay and Smith (1950), working on peptic ulcer, who showed that hexamethonium bromide is, when orally administered, absorbed sufficiently to be pharmacologically active. The material of the paper consists of 15 cases of essential hypertension, of which two-thirds were treated for periods ranging from 7 to 10 months.

The cases were admitted to hospital for general assessment and calibration of dosage. As soon as possible, they were allowed to be ambulant and discharged to their homes and normal activities. Thereafter, they were supervised as out-patients. There were 10 females and 5 males in the series.

The drug was supplied in tablets of 0.25 Gm. The best results were obtained if the tablets were crushed and taken with a little water before meals, thrice daily. The average dose administered was 1.5 Gm., per day. It was commonly rather difficult to determine the very critical level of dosage which was at once effective and tolerable. This dosage showed considerable variations from patient to patient.

Five patients were classified as improved, 3 females and 2 males. This improvement was manifested by lowering of blood pressure, relief of symptoms, and improvement in general efficiency. In 10 cases no useful improvement was obtained at a dosage tolerable by the patient.

Undesirable effects have been excessive lowering of blood pressure, giddiness and lassitude, dry mouth, constipation, impairment of appetite, impairment of visual accommodation, dryness of skin and scalp, and, occasionally, diarrhea. These undesirable effects have not been encountered in all cases.

The authors believe that they have shown that hexamethonium bromide, administered orally, is capable of exerting a powerful effect upon the manifestations of essential hypertension. The proportion of patients in which this effect is "useful" may possibly not be greater than 30 per cent; even so, it may well prove a very useful addition to the management of this condition.

The authors have encountered comparatively little evidence of the building up of tolerance to the drug and, during the period covered by the paper, no incidence of acute or long term toxicity. No evidence of deterioration of renal function associated with lowering of blood pressure was found. 8 references. 2 figures. 4 tables.—*Author's abstract.*

Terramycin in the Treatment of Subacute Bacterial Endocarditis; Case Report. WILLIAM P. ARNOLD, JR., M.D. AND ROPERT L. REEVES, M.D., New York, N. Y. Antibiotics and Chemotherapy *1*:181-84, June 1951.

A thirteen year old Negro female with a history of rheumatic fever and evidence of rheumatic heart disease was admitted to the hospital with a two-day story of pains in the hip, chills, fever, and malaise. Admission physical examination revealed a temperature of 101.8 F., carious teeth, a gallop rhythm, and a loud apical systolic murmur. Laboratory data showed an anemia, leukocytosis, and increased erythrocyte sedimentation rate. Electrocardiogram showed only a sinus tachycardia.

During the first two hospital days three blood cultures all grew a *Streptococcus viridans*. Embolic phenomena were noted. The patient was placed on penicillin 500,000 units every three hours with a resultant fall in temperature to normal. On the twelfth hospital day, the temperature began to spike upwards and failed to respond when the dose of penicillin was tripled. *In vitro* sensitivity studies done on the organism grown from the patient's blood showed it to be resistant to penicillin, but markedly sensitive to terramycin. Penicillin was stopped and terramycin was begun in a dosage of 250 mg. every three hours by mouth. Four days after the initiation of this therapy the temperature returned to normal and remained there. Terramycin (2 Gm. a day) was continued for a total of three weeks, and the patient was discharged asymptomatic on the sixty-first hospital day. A six month follow-up examination has found the patient to be in good health with no signs or symptoms of active disease. 6 references. 1 figure.—*Author's abstract.*

The Clinical Evaluation of Priscoline as a Peripheral Vasodilator. H. B. ZURROW, New York, N. Y. New York State J. Med. *51*:1038-40, April 15, 1951.

The effect of priscoline on the following was studied; the peripheral vessels of the skin, the muscles, the pulse rate, the blood pressure, the gastric secretion, the electrocardiagram. The subjects were typical clinic cases of obliterative vascular disease in the fifth, sixth, and seventh decades of life. The drug was exhibited orally and parenterally in increasing doses. The studies were made under standard conditions of body temperature, environmental temperature, rest, etc. The results were compared with peripheral nerve block and with paravertebral sympathetic block.

Oral exhibition of 50-100 mg. priscoline was effective in producing peripheral vasodilatation of skin vessels comparable to that obtained by peripheral nerve block. Few side reactions were observed. Parenteral exhibition of 50 mg. priscoline is effective in producing peripheral vasodilatation of skin vessels of the extremities. Studies of intramuscular temperature and skin surface temperature disclosed that the normal physiologic inverse relation between skin surface temperature and intramuscular temperature of an extremity is not altered by priscoline. The priscoline drug also produced no effect on the electrocardiagram in the cases studied. The value of priscoline is due to its potency by oral administration which is nearly as effective as by parenteral administration. 7 references.—*Author's abstract.*

Fatal Myocardial Fat-Embolism in Periodic Catatonia with Fatty Liver. J. CAMMERMEYER AND R. GJESSING, Oslo and Asker, Norway, Acta med. scandinav. *139*:358-67, April 30, 1951.

An adult man had for many years suffered from periodic catatonia. His sudden and unexpected death was explained by the histologic demonstration of fat emboli in the myocardium. A careful clinical survey of the patient and of his record failed to reveal any of the usual sources of fat embolism, but an unusual source was found in the liver which was shown after histological examinations to have a centrolobular fatty degeneration of severe degree. The factors which might modify the clinical events and might explain the abrupted course of the condition in our patient are discussed.

GENITOURINARY DISORDERS AND DISEASES

Diabetic Renal Disease. J. BJERKELUND, Oslo, Norway. Acta med. scandinav. *139*:133-45, 1951.

In Med. Dept. A of the University Hospital, Oslo, 1,335 diabetics were investigated to determine the frequency of diabetic renal disease. This was found in 10 per cent of the total, 9 per cent of males and 12 per cent of females. The frequency of renal disease increased greatly with increasing duration of the diabetes. While only 3 per cent of males and 4.5 per cent of females had renal disease after 0-5 years of diabetes, the corresponding figures for those with diabetes for 15 years or more were 32 per cent and 31 per cent respectively. The systolic and diastolic blood pressures were found to be distinctly higher in both males and females with renal disease than in those without it. Retinopathy was further shown to affect chiefly the same patients who had renal disease, in that 68 per cent of males and 80 per cent of females in the group also had retinopathy. Retinopathy also increased greatly in frequency with increase in the duration of the diabetes. In this series, retinopathy was found in 29 per cent of males and 54 per cent of females who had had the disease for 15 years or more. This relationship suggests that the renal disease and retinopathy have a pathogenetic factor in common.

The course of the renal disease was observed in a number of patients, and in 16 was followed to a fatal conclusion. This investigation showed that diabetic renal disease is a progressive renal lesion beginning insidiously with mild, often intermittent albuminuria, which sooner or later leads to renal insufficiency and uremia. Four typical cases are briefly described.

The writer maintains that the pathogenesis of vascular degeneration in diabetes is one of the most urgent problems at the present time both in research into diabetes and in its treatment. This particular problem is also of interest because of its connection with the wide problem of arteriosclerosis in general. In the present series no correlation was found between the occurrence of renal disease and body weight or blood cholesterol level.

Significance of Hematuria. LAURENCE F. GREENE, Rochester, Minn. M. Clin. North America *35*:1011-16, July 1951.

Normal urine may contain erythrocytes. An Addis count of normal urine collected

during a period of twelve hours will disclose 0 to 500,000 or possibly 1,000,000 erythrocytes. Larcom and Carter studied single voided specimens from 3,000 healthy men applying for employment; in 2,484 instances, urinalysis did not disclose erythrocyturia. These authors concluded that the presence of more than 2 erythrocytes in each high-power field may indicate an increased or abnormal loss of erythrocytes from the urinary tract.

Hematuria may be of two types: (1) microscopic and (2) gross hematuria. In any condition in which microscopic erythrocyturia may occur, however, gross hematuria also can appear.

Hematuria may be associated with or secondary to systemic disease, to diseases of structures adjacent to the urinary tract, and to urologic disease. In some instances hematuria may be the outstanding clinical symptom. Thus, hematuria, either gross or microscopic, is present in acute glomerulonephritis with such regularity that the disease has been termed "acute hemorrhagic nephritis."

Erythrocyturia is common in diseases of the blood or blood-forming organs as thrombocytopenic purpura, leukemia, hemophilia, *polycythemia vera*, and Hodgkin's disease. Congestive failure or renal infarct secondary to disease of the heart may result in erythrocyturia. The ingestion of such chemicals as methenamine, turpentine, cantharides, carbolic acid, and sulfonamides, and acute and chronic diseases, such as scarlet fever, smallpox, malaria, and yellow fever, may be associated with erythrocyturia. Deficiency of ascorbic acid or vitamin K and the administration of dicumarol or heparin may result in erythrocyturia. An allergic basis is stated to be the cause for erythrocyturia following injection of tetanus antitoxin.

The etiologic basis for erythrocyturia secondary to disease of organs adjacent to the urinary tract presents unlimited possibilities. Inflammatory conditions such as acute appendicitis, acute salpingitis, diverticulitis of the colon, and malignancies involving neighboring structures may be causally related to erythrocyturia.

The finding of microscopic erythrocyturia without other formed elements in the urine of a patient who has no urinary symptoms and no symptoms of systemic disease or disease of adjacent organs presents a perplexing problem to the physician. A practical answer is that when microscopic erythrocyturia is not associated with symptoms of urinary or other disease repeated urinalysis should be made. If erythrocyturia persists or if it appears intermittently, the condition should be considered with the same suspicion as gross hematuria, and complete urologic investigation is warranted, and diseases and conditions outside of the urinary tract which may be responsible should be ruled out.

It may be enlightening to consider the thoughts and observations of a urologist when confronted with gross hematuria. The age of the patient is important. Gross hematuria is rare during infancy and childhood in the absence of certain systemic diseases. When it occurs, it usually is in response to infection, which usually is the result of congenital obstruction in some part of the urinary tract.

In young adults and persons up to the age of 40 years, gross hematuria is most commonly a manifestation of infection in the form of pyelonephritis or cystitis. Gross hematuria associated with renal or ureteral colic is not uncommon in the presence of

renal or ureteral calculi. Neoplasms of the urinary tract are relatively uncommon in this age group.

After the age of 40 years, gross hematuria as a result of neoplasms of the kidney, ureter or bladder becomes more frequent. In men of this age group, prostatic lesions, both benign and malignant, are a common cause of hematuria. Infection, both specific and nonspecific, and urinary calculi are less common causes of gross hematuria in this age group.

Particular attention should be paid to certain phases of the physical examination of a patient who complains of gross hematuria. Renal enlargement due to neoplasm, hydronephrosis, cyst, or polycystic kidney may be detected. Tenderness in the flank, a result of infection, may be elicited. Careful palpation of the supraclavicular region should be carried out because hypernephromas are likely to metastasize to the lymph nodes at that site. The appearance of a left varicocele late in life is suggestive of a neoplasm of the left kidney.

The suprapubic area should be examined carefully in order to detect the presence of a distended bladder, tenderness that may accompany cystitis, or a mass due to a vesical neoplasm. By means of a careful rectal examination of a man, a diagnosis of benign prostatic hyperplasia or prostatic carcinoma may be made. Infiltration of the base of the bladder by a vesical neoplasm may be readily detected by rectal palpation.

In cases in which the patients are females, infiltration caused by vesical neoplasm and tenderness caused by cystitis may be detected by vaginal examination. The presence of urinary tuberculosis may be suggested by noting evidences of genital tuberculosis, inasmuch as these two conditions are frequently concomitant. A urethral neoplasm may be palpable along the course of the urethra. Every patient complaining of gross hematuria requires complete urologic investigation by a capable urologist.

There are several conditions in which foreign substances are excreted by the kidneys which result in discoloration of the urine. These conditions are paroxysmal hemoglobinuria, march hemoglobinuria, nocturnal hemoglobinuria of Marchiafava, porphyria, and ochronosis. The discoloration may be falsely interpreted by the patient and described to the physician as representing hematuria. Microscopic examination of a freshly voided specimen of urine will enable the physician to distinguish these conditions from hematuria. Unless a secondary complication is present, red cells are not present in the former case whereas they are invariably present in the latter. 4 references.—*Author's abstract.*

GASTROINTESTINAL DISORDERS AND DISEASES

A Little Known Anomaly of the Hepatic Cells: The Vacuolar Nuclei, their Probable Physiopathologic Significance in the Syndrome of Adaptation. (Une Anomalie mal connue des cellules hépatiques: les noyaux vacuolaires et leur signification physiopathologique probable dans le syndrome d'adaptation.) P. CAZAL AND J. MIROUZE, Montpellier, France. Presse méd. 59:571-73, April 25, 1951.

The following summary is given by the authors in respect to the anomaly they have called "vacuolar nuclei."

In the course of diabetes and also of hormonal or metabolic disorders it is not uncommon to find in the cells of the livers some nuclei containing a clear vacuole which may so much increase in size as to occupy the whole volume of the nucleole. Occasionally some glycogen is to be found in this vacuole, which caused the term "nuclei with glycogen" to be suggested by Askanazy and Hueschmann.

This "vacuolar nuclei" anomaly is reversible and may exist with a normal cellular functioning. It seems to be produced by an excessive amount of adrenal 11-oxysteroids inducing in the hepatic nuclei a nucleo-proteidic catabolism with liberation of C^3 bodies which at times are glycogen producers. The appearance of "vacuolar nuclei" is a histological sign of the "defense and alarm reaction" and their persistency reveals an "excess of adaptation" according to Sely's denominations.

A Rare Form of Hepatic Cirrhosis of Splenic Origin: Cirrhogenous Splenopathic Purpura. (Une forme rare de cirrhose hépatique d'origine splenique le purpura splénopathique cirrhogène.) R. CATTAN AND P. FRUMUSAN, Paris, France. Presse méd. *59*:441-42, April 4, 1951.

Cirrhogenous splenopathy is a condition now recognized, whose main feature is that the disease of the spleen is prior to that of the liver and that splenectomy has proved always effective.

After describing in detail a demonstrative case, the authors sum up the condition of the patient:

The disease developed in three stages: the first with splenomegalia and intermittent cutaneous purpura, but no involvement of the liver; the second with purpura becoming permanent and appearance of hepatomegalia; the third with development of ascitis.

Splenectomy caused together the disappearance of the purpura, drying of the ascitis and complete apparent recovery of the patient. The liver functional tests gave discordant results: fibrinemia returned to normal, cholesterolemia level lowered, but thymol test, still highly positive after 4 months.

The etiology is still obscure. There is no history of alcoholism, and no possibility of effect from a syphilis of old date well-treated and serologically negative for many years.

Only the course of the disease allowed a diagnosis of cirrhogenous splenopathy, especially on observation of the benficial result of splenectomy.

The writers point out that the beneficial result of splenectomy had already been reported as regards isolated splenopathic purpura, but that the present case may represent a new form of cirrhosis with a splenic origin: cirrhogenous splenopathic purpura.

Congestive Failure and Liver Dysfunction. ANTHONY CAPUTI AND DAVID LITTMAN, Rhode Island. R. I. Med. J. *34*:319-21, June 1951.

In extensive heart failure hepatic congestion is the rule. Despite this, jaundice is rare together with cardiac decompensation. When it does appear, it is thought to result from coincidental acute or chronic liver disease or from extensive hemolysis such as occurs with pulmonary infarction. Numerous investigators have discussed the causes

of jaundice in congestive failure. These include pulmonary infarction, oxygen unsaturation, toxemia, primary liver disease and physical collapse of the bile canaliculi secondary to intrahepatic congestion. Others have demonstrated increased BSP retention, elevation of the serum bilirubin, and abnormal cephalin flocculation tests. The pathologic changes in the liver in congestive failure vary from centrolobular congestion to centrolobular cirrhosis. In an analysis of 83 fatal and nonfatal cases of congestive failure in which liver tests were available in the period from January 1948 to January 1950, at the Veterans Hospital, West Roxbury, Massachusetts, the following conclusions were reached: (1) The association of jaundice and hepatomegaly in congestive failure indicated a poor prognosis. (2) The degree of hepatomegaly appeared to correlate well with the degree of microscopic liver damage and liver dysfunction. An illustrative case report with pathologic findings was presented.—*Author's abstract.*

Treatment of Ulcerative Colitis and Regional Enteritis with ACTH; Significance of Fecal Lysozyme. SEYMOUR J. GRAY, ROBERT W. REIFENSTEIN, JOHN A. BENSON, JR. AND J. C. GORDON YOUNG, Boston, Mass. Arch. Int. Med. *87*:646-662, 1951.

The administration of pituitary adrenocorticotropic hormone (ACTH) resulted in a significant and often dramatic remission in five or six patients with severe extensive ulcerative colitis who had not responded to an adequate control period of good medical management. Two patients with intractable regional enteritis experienced a similar remission. No response was observed in one patient with a 23 year history of ulcerative colitis and extensive cicatrization of the colon with stricture formation, fistulas and polyposis.

The remission was characterized by a marked decrease in diarrhea, disappearance or diminution of blood in the stools, improvement of the appearance of the mucosa on sigmoidoscopic examination, relief of abdominal pain and tenesmus, prompt fall in temperature and sedimentation rate, and an increase in appetite and weight, accompanied with a sense of well-being.

Relapses occurred in three patients with ulcerative colitis and in both patients with regional enteritis within three weeks to nine months after ACTH treatment was discontinued. The relapses were mild in all but one patient, and there was a good response to a second course of therapy. Long term maintenance therapy or repeated courses of treatment may be indicated in some patients. In two of the five patients who responded to ACTH therapy, the disease has remained in remission for periods up to 16 months.

The fecal lysozyme titer was found to parallel the course and activity of ulcerative colitis, decreasing with remission and increasing with exacerbations. The level of fecal lysozyme is a measure of the activity of the disease process and is a significant index of the available functioning tissue and its ability to respond to injury. A profound fall in fecal lysozyme, coinciding with the clinical improvement, occurred uniformly in all patients with ulcerative colitis who responded to ACTH therapy. The decrease in fecal lysozyme following ACTH therapy may represent the inhibitory effect of ACTH on the tissues' response to injury. It is a good index of the patient's response to treatment. In the presence of irreversible fibrosis and cicatrization, the lysozyme

titer may be low before ACTH therapy is instituted. No therapeutic response may be anticipated in these cases.

The remission induced by ACTH may prove exceedingly helpful in the preparation of patients with ulcerative colitis for surgical treatment.

The dose requirement and the duration of therapy should be individualized for each patient, depending on the clinical response. The best long term results were obtained in patients receiving a prolonged course of treatment.

Administration of ACTH does not constitute a cure but is a valuable adjunct in the therapy of ulcerative colitis and regional enteritis, particularly in the early stages of the disease.

Functional Disturbances of the Duodenum in the Dystonic States of the Biliary Ducts. (Les perturbations fonctionnelles du duodénum dans les états dystoniques des voies biliares.) P. MALLET-GUY, P. BLONDET AND J. NEFUSSY, Lyons, France. Presse méd. *59*:568-570, April 25, 1951.

A radiologic study of the duodenum as it is seen in the course of dystonia of the biliary ducts has enabled the authors to individualize two different types of functional disturbances:

(1) In *hypertonia* the passage of the opaque meal is accelerated; the appearance of the duodenum suggests the presence of increased muscular contractility. The bulb is generally small and contracted with jagged borders, suggestive of an ulcerous bulb; the mucosa of the duodenal loop is suggestive of a so-called "duodenitis." Other characteristics are numerous big deep folds, so close to each other as to be confused into an opaque homogenous coating with jagged borders (appearance of a closed accordion), constant but generally narrowed duodenal lumen, peristaltism and anti-peristaltism of abnormal intensity.

(2) In *hypotonia* the passage is slackened, the prevailing appearance is that of a muscular distension: the bulb generally big, with borders well outlined. The duodenal loop with a lumen generally increasing downwards to portion D^3, where appears a stasis with dilatation, and mucosa with big sinuous folds, distant from each other, outlining large areas with no relief and giving the appearance of a mucosa unfolded like an open accordion are also present.

Both schematic types, although not definitely established, may be considered to be an aid to the diagnosis in the field of "stasis gall-bladder," concerning the meaning of a dystonia state, which is not generally provided by cholecystography. Such functional changes in the duodenum account for a few elements of the syndrome. 1 reference. 6 figures.—*Author's abstract.*

Quantitive Determination of the Visceral Pain Threshold in Man. EDWARD A. GAENSIER, Boston, Mass. J. Clin. Investigation *30*:406-20, April 1951.

A quantitative method for measuring visceral pain thresholds by hydrostatic distention of the biliary ducts was described. The initial pain threshold in different patients

varied from 90 to 800 mm. of water. A slow rise of pain threshold was often noted in the same patients studied repeatedly from 14 days to seven months after operation. However, all measurements of pain thresholds of the same patients on the same day were found to be at least within ± ten per cent of their respective average values. In six patients studied at intervals during the course of 12 hours, the control threshold values showed a standard deviation of ± 5.1 to ± 12.6 mm. and a coefficient of variation of 0.67 to 3.82 per cent. The administration of analgesic substances, with the exception of acetylsalicylic acid, invariably resulted in an elevation of the visceral pain threshold. The onset of action, shown by an elevation of the intrabiliary hydrostatic pressure tolerated without pain, was noted between seven and 15 minutes after injection with all drugs studied. The peak threshold elevation was found 30 minutes after administration of morphine and meperidine and 60 minutes after all other agents. The mean peak threshold elevations in per cent together with the number of studies for each drug were as follows: morphine: 40 studies, 56 per cent; codeine: 27 studies, 12 per cent; dihydromorphinone: 11 studies, 42 per cent; methyldihydromorphinone: 7 studies, 46 per cent; methadone: 10 studies, 33 per cent; meperidine: 50 studies, 23 per cent; and acetylsalicylic acid: 13 studies, no threshold elevation. The duration of action was five hours for morphine, four hours for codeine, dihydromorphinone and methyldihydromorphinone, six hours for methadone and three hours for meperidine. When morphine and meperidine were given in increasing doses, the total analgesic action increased in proportion to the dose up to 16 mg. for morphine and 100 mg. for meperidine. A further doubling of the dose to 32 and 200 mg., respectively, caused only a 23 and 37 per cent respective increase in the total analgesic action.

The analgesic effect of various drugs was found to be inversely proportional to the initial pain threshold both in different patients and in the same patients studied at intervals. Parenteral injections of placebos in eight patients were not reflected by a rise in the visceral pain threshold. Differences between visceral and integumental pain threshold responses to the various drugs were noted. The peak threshold-raising action for visceral pain occurred earlier than for superficial pain; the duration of action was shorter, and the intensity of the analgesia was somewhat smaller for visceral pain. In the doses used, morphine showed the most powerful threshold-raising activity and methadone showed the longest action. In contrast to integumental pain, acetylsalicylic acid had no analgesic activity for visceral pain. 32 references. 9 figures. 5 tables.—*Author's abstract.*

BLOOD AND LYMPHATIC DISORDERS AND DISEASES

Eosinophilic Leukemia Infiltrating the Gasserian Ganglion. N. B. NORDLANDER, Upsala, Sweden. Acta med. scandinav. *138*:146-52, 1951.

In literature there are 22 cases of eosinophilic leukemia that fulfill the conditions of an immature eosinophilic blood picture, fatal issue, and eosinophilic myeloid organ infiltrations. Another similar case is described: a man of 44, taken ill with cough, weakness, and fever, turned out to have 80,000 white blood cells. Thirty-three per cent of them were myelocytes and metamyelocytes, to a great extent eosinophilic, and 17½

per cent mature eosinophilic leukocytes. The spleen was enlarged, and the lungs showed transitory shadows on the roentgenogram. During treatment with urethane, the white blood cells decreased in number and became more mature, but the relative eosinophilia increased to 64 per cent. All investigations for allergens, parasites, and other eosinophilic agents proved negative. After an exacerbation, urethane treatment induced a new remission, but the eosinophils still formed about 50 per cent of mature and immature white blood cells in blood and bone marrow. Eventually there was a rapid change for the worse 11 months after the beginning of the illness. The patient developed anesthesia of the left half of the face, corneal areflexia and masticatory palsy on the left side, infiltrations in skin and retina, 348,000 white blood cells, 28 per cent of which eosinophilic, and eventually hemiplegia and death. The autopsy showed eosinophilic myeloic infiltrations in liver, spleen, lymph nodes, kidneys, skin, bone marrow, and the left gasserian ganglion. There were about 15 hematomata in the brain. After discussing different alternatives, the author concludes that eosinophilic leukemia is a distinct subspecies of myeloid leukemia, where the disease affects the eosinophils especially but also the other myeloid cells.

The neurological complications in leukemia and the different opinions in literature on this topic are discussed. To the medical clinic of Upsala have been admitted 154 cases of leukemia during the last 15 years. Twenty-seven of them (17½ per cent) displayed neurological symptoms, 7 herpes zoster, 5 hemorrhages in the brain, or meninges, and the rest palsy or anesthesia of different nerves. Autopsy performed in about half the cases seldom gave any explanation of the symptom.

The case described here is of interest because of the good agreement between symptoms and lesions found at autopsy. In spite of massive infiltration of the gasserian ganglion, there was neither trigeminal neuralgia nor herpes zoster, possibly because only the ganglion, not the nerve root, was affected.

Association of Leukemia with Polycythemia Vera. (L'Association de la leucémie à la polycythémie vraie.) J. DE BACKER AND J. H. LAWRENCE, Berkeley, Calif. Presse méd. 59:461-63, April 7, 1951.

From a review of the literature and from their own experience based on a study of 150 cases of polycythemia, eight of which are here detailed as a demonstration of the correlation existing between *polycythemia vera* and leukemia, the authors draw the following conclusions:

Polycythemia vera is not a disease of the erythropoietic system alone, but also of the whole bone marrow. The peripheric blood presents leukocytosis and often contains myelocytes. In some cases the differential diagnosis of polycythemia from leukemia is difficult. There are cases of polycythemia which develop leukemia at the end of their course. Such observations lead to the assumption that there is a fundamental relationship between *polycythemia vera* and leukemia.

No relationship seems to be possible between the nature of the treatment administered and the development of leukemia, as this complication was found to occur following any kind of treatment so far applied.

The Plasma Cells of the Bone Marrow in Normal and Pathologic Man. (Le Plasmacelluls Nel Midollo Osseo Dell'Uomo Nella Norma E Nella Patologia.) CARLO SACCHETTI, Milano, Italy. Archivio Fondato da Adolfo Ferrata. *35*:13-52, fas. 1.

The author has studied the behavior of the plasmacells of the bone marrow in various diseases, considering in comparison to the normal, the modifications of their number and dimension, and those modifications related to the nucleocitoplasmatic growth.

Research has been performed in the following diseases: gastric carcinoma, sepsis from streptococcus viridans, diphtheric angina, during the disease and after recovery, cirrhosis of the liver postnephritic nephrosis, and, as a control, in the normal.

In the septicemia a significant increase of the citoplasmatic diameters has been found, and a disharmony of the nucleo citoplasmatic growth has been evidenced. In the diphtheric angina, during the course of the disease, the cellular and citoplasmatic diameters have shown a significant increase. After the recovery from diphtheric angina, all the diameters (nuclear, cellular, and citoplasmatic) have shown diameters inferior to those seen during the disease. In the cirrhosis of the liver an increase of the percentual values. In the postnephritic nephrosis, a significant difference in respect to the normal was found only for the citoplasmatic diameters. 29 tables.—*Author's abstract.*

Hematologic, Peripheral and Medullary Observations of Leptospirosis during the Icterus Period. (Osservazioni Ematologiche Periferiche e Midollari Nelle Leptospirosi Itterigene.) M. RAVETTA AND R. TRAVERSO, Milano, Italy. Archivio Fondato da Adolfo Ferrata. *35*:1-11, fas. 1.

On seven cases of hepatonephritis from leptospirosis during the icterus period, researches on the bone marrow were carried out. The bone marrow picture presents some modest variations, the most important of these being a percentual increase of granuloblastic elements in comparison to the erythroblastic. The maturation curve of granuloblasts is characterized by an increase of myelocytic and promyelocytic cells, considering erythroblastic tissue by an increase of basophil cells in some cases presenting hyperazotemia. The authors point out also the presence of hypergranulation on the white cells of the bone marrow, and a constant and frequently very evident increase of the plasmacells. The most severe cases are characterized by decrease of eosinophil cells. 2 tables.—*Author's abstract.*

The Present Position Regarding Leukemia. SIR L. WHITBY, Cambridge, Eng. West J. Surg. *59*:178-187, April 1951.

Leukemia resembles malignant disease in having an inevitably fatal prognosis and by reason of the associated anemia and cachexia as well as the uncontrollable cell proliferation. On the other hand, there are features of leukemia which do not occur in orthodox malignant disease including spontaneous remissions, remission after simple blood transfusion or simple infection, the noninvasive character of the widespread secondary infiltrations which have a specific and highly selective distribution in the liver according to the type of leukemia, and especially, the fact that leukemic cells

mature *in vitro* to normal cells and at a normal rate and at the same time preserve their inherent power to differentiate.

Implantation experiments in the skin, spontaneous and treatment remissions, as well as the effects of certain drugs suggest that leukemia arises from an environmental alteration brought about by some metabolic defect, of which indications are to be found in detectable alterations in purine metabolism, folic acid metabolism, and the distribution of trace elements.

If this be so, then the treatment of leukemia with antimitotic remedies such as x-rays, radioactive isotopes, colchicine, and nitrogen mustards is irrational and attention should turn to studying the physiology of normal leucopoiesis including the factors which control leucocytic division and leucocytic release into the circulation. Such studies should provide a logical and rational approach to therapy. 12 references.—*Author's abstract.*

Haemophilia Associated with Normal Coagulation Time. C. MERSKEY, Oxford, England. Brit. M. J. *4712*:906-912, April 28, 1951.

During an examination of a large series of hemophilic patients, a number were found in whom the coagulation time was constantly normal or near normal. This paper describes the clinical features and laboratory findings in these cases. The inheritance was the classical inheritance of hemophilia. The clinical picture was also that of haemophilia, but generally tended to be milder especially with regard to haemarthroses and resultant crippling ankylosis of joints. The hemorrhagic episodes were more widely spaced and often less severe than those of classical hemophilia. Exceptions however occurred and in some cases a severe clinical syndrome resulted. The normal coagulation time was a constant feature and was not a fluctuation of a prolonged coagulation time to normal. There was defective consumption of prothrombin during coagulation if the test was done on venous blood, but not if capillary blood was used. Even on venous blood the defect was less marked than in the usual type of hemophilia. The blood of these patients could not correct the coagulation defects of hemophilic blood to the same extent that normal blood could. They appeared to have the same coagulation defect but in lesser degree. Possibly they had less (available) "antihemophilic globulin." The danger of relying on a normal coagulation time to exclude a diagnosis of hemophilia is emphasized. Surgery might be safer in this variety of hemophilia than in the variety with prolonged coagulation time, but even so the risk of hemorrhage is formidable. The various members and generations of the same families all seemed to have the same variety of hemophilia. The syndrome thus appeared to breed true. 19 references. 11 figures. 1 table.—*Author's abstract.*

A New Diluting Fluid for the Eosinophil Count. T. MANNER, M.B., B.S., Sunderland, England. Brit. Med. J. 1429-30, June 1951.

A diluent for the eosinophil count is described. The formula is:

Urea	50 Gm.
Trisod. citrate	0.6 Gm.

Distilled water ..... to 100 ml.
Aqueous phloxine 2 per cent ..... 5 ml.

This fluid destroys erythrocytes and the majority of leucocytes. Eosinophils are preserved and stain pink. In this diluent, blood may be left in the mixing pipette for half an hour, and then remixed to fill the counting chambers. This treatment does not destroy eosinophils, as in the case of Dunger's diluent. Five cases are given to illustrate this point.

The fluid is less viscous than propylene glycol diluents, and owing to its high urea content, it evaporates slowly. 6 references. 1 table.—*Author's abstract.*

Emergency Blood Transfusion. THOMAS H. SELDON, Rochester, Minn. Minnesota Med. *34*:551-53, June 1951.

The two most important and inclusive reasons for transfusion of blood are: (1) to increase the total circulating blood volume, and (2) to increase the oxygen-carrying power of the blood. Depletion of the blood volume by the loss of whole blood, plasma, or water is encountered under many circumstances. Decision as to whether whole blood, plasma, or water is the component lost is of real importance in selection of the type of therapy needed.

Shock due to simple loss of water occurs only in extreme alterations of fluid balance. This loss of water must be at least 6 per cent of the body weight before clinical signs of dehydration will be apparent. For evaluation of the loss of plasma volume a hematocrit determination may be suitable. Usually an elevation of 1 above the normal per cent of 45 is accepted as corresponding to the loss of 100 cc. of plasma. A loss of blood volume of approximately 35 per cent, which corresponds to a hematocrit reading of 60 to 65, usually results in low blood pressure. When whole blood is lost, the hematocrit determination is of relatively little value so far as estimation of the total loss of blood is concerned. Although different observers have varying opinions, the view in general seem to be that a blood pressure of less than 85 mm. of mercury is indicative of a 25 per cent loss of blood volume (1,500 cc. in an average man). If vasoconstriction is marked and perhaps has been stimulated by the administration of vasopressor drugs, these clinical observations may be inaccurate.

Restoration of the reduced blood volume is the single, most important item in the treatment of traumatic and hemorrhagic shock. In most instances of clinical shock, the use of crystalloid solutions plays a secondary role; whole citrated blood or plasma is necessary to restore a normal circulation. The general consensus now is that whole blood is the fluid of choice for restoration of blood volume.

It is advisable to use the corresponding blood grouping and Rh typing of the donor and recipient. In emergencies, a different situation arises; it is not always possible to determine the recipient's blood group with Rh type, and in such instances it is necessary to use group O blood from an Rh-negative donor.

At the Mayo Clinic it is the practice to determine the anti-A agglutinin titer of all group O donors. It has been noted that approximately 50 per cent of all persons whose

blood belongs to group O have an anti-A agglutinin titer of 1:64 or less, the Mayo Clinic technic being used as the method of determination. It is our practice to administer group O donor blood which has an anti-A titer of more than 1:64 only to recipients whose blood type is group O.

Mathieson has observed that if group O donor blood recently has been administered to a recipient, it occasionally is difficult to determine conclusively the blood group of that patient if his blood is not in group O. This points up the advisability of determining the blood groups of prospective recipients before group O is administered. It follows then that, when a blood grouping determination is requested, this information should be communicated to the laboratory.

When plasma has been lost, and the patient requires an emergency transfusion, the choice of fluid to be transfused should be obvious. A good response is the return of the blood pressure to a reasonably normal level, followed by a slowing of the pulse rate and an increase in the total circulating blood volume. A lessening of the peripheral vasoconstriction and a return to normal of the cardiac output are important. From a clinical standpoint, a warming of the skin, increased output of urine, improved pulse rate, and increasing alertness of the patient are important.

Frequently, a poor response may be due to inadequate restoration of blood volume, continued bleeding and the like. Massive pulmonary edema may occur in late traumatic or postoperative periods and may be a cause of failure in the response to transfusion. If this occurs, a greater load of fluid such as would result from venous transfusion might unduly embarrass the patient. In such a situation arterial transfusion might be considered.—*Author's abstract.*

Thrombogenic Action of Antibiotics. Hazard from Their Immoderate Use. J. BREHANT, CH. FINAS, Paris, France. Presse méd. 1013, July 14, 1951.

Anyone would be unwelcome who tried to discredit such a wonderful discovery as antibiotics. Yet the practitioner cannot help taking alarm at their immoderate use. The writers think that attention has not been sufficiently drawn upon the frequent occurrence of embolism in surgical patients or cardiac patients treated with antibiotics. They, therefore, wonder whether it is always advisable to use these drugs either as a preventive treatment against the eventuality of postoperative infection or as a curative treatment in those subjects showing an orificial lesion that may expose them to embolism.

The writers review the literature regarding the observations made comparatively in groups of surgical patients or parturients either treated or not treated with antibiotics, and they point out that several authors agree that antibiotics increase the coagulation potentiality and encourage venous thrombosis. It is therefore unadvisable to treat any phlebitis with penicillin, unless an infectious etiology is evidenced; moreover, when there is a necessity of using the antibiotic in cardiacs, it should be borne in mind that the coagulation time and the prothrombin rate must be previously checked so that heparin or dicoumarol or tromexan might be preventively administered if needed.

Clinical and Experimental Studies of Chronic Hemolytic Anemia with Consequent Hemoglobinuria (Marchiafava-Micheli Type). [*Klinische und experimentelle Studien zur chronischen hamolytischen Anamie mit nachtlicher Hamoglubinurie (Type Marchiafava-Micheli).*] M. MATTHES, H. SCHUBOTHE, AND B. LINDEMANN, Germany. Acta Haemat. 5:193-222, April 1951.

A case of Marchiafava-anemia was examined in detail both clinically and experimentally. The intensity of hemolysis *in vivo* and its variations in the waking-sleeping rhythm were determined in numerical equivalents by continuous analyses of the color-values of the urine. Serological results showed that the decisive pathogenetic factor was a defect in the erythrocytes. By means of electron-optical methods, structural changes of the erythrocyte membrances, not previously described, were observed. A pathological hemolysin could not be found in the serum. For the mechanism of hemolysis, however, a normal thermolabile factor in the serum is necessary which is not identical with the complement, also a certain ionic-equilibrium in the serum is important. *In vivo*, the CO_2-tension seems to play a part, the variations of which may explain the waking-sleeping rhythm of the intravital hemolysis. This cannot be caused by the small physiological variations of the blood pH. The interaction of the various pathogenic factors is explained by a provisional working hypothesis.

The Latent Hemolytic Syndrome in Leukemia with Splenomegaly. R. BERLIN, Upsala, Sweden, Acta med. scandinav. *139*:331-40, April 30, 1951.

A short survey of the symptomatology of the acquired forms of hemolytic anemia with special stress on the survival time of transfused red blood cells in these cases is given. The author shows that in certain conditions, there is a latent hemolytic syndrome. This may be present in a number of different forms of splenomegaly and also in the splenic leukemias. In these cases there is sometimes no clinically distinct hemolytic syndrome such as is found in other hemolytic anemias. The hyperhemolysis can only be demonstrated through the presence of constant reticulocytosis and urobilinuria and by carrying out determinations of the survival time of the red blood cells. The survival time was greatly reduced in all ten cases of leukemia associated with enlargement of the spleen and in one case of Felty's syndrome. The determinations were carried out by a modification of Ashby's differential agglutination method (Dacie and Mollison). One patient with myeloid leukemia was splenectomized and showed after the operation a normal survival time for the red blood cells; the anemia also disappeared, the white blood picture became more normal and the patient's general state of health improved considerably. The indications for splenectomy in the treatment of splenic leukemia are discussed on the basis of the results achieved.

Functional Problems of Hematopoiesis. N. B. NORDENSON, Stockholm, Sweden, Acta med. scandinav. *139*:379-86, April 30, 1951.

The maturation curves of hematopoiesis permit to some extent an assessment of the functional capacity of the bone marrow. The maturation process is regulated by two fundamental factors—retarded and disturbed maturation. The first reactive change

becomes manifest through hyperplasia of the regenerative centers. The first functional reserve is made up of immature cells exhibiting reactive changes in the case of failing function of the regenerative centers. The last functional reserve is made up of the reticular endothelium, not only in the bone marrow but also in other parenchymatous organs.

The reactive changes are reversible, but the younger the affected cells are, the less is the reversibility. In cases of leukemia or reticuloendotheliosis and leukemoids, energetic therapy with transfusion has to be undertaken to enable a remission to set in (spontaneous or possibly therapeutic).

Quantitative Studies on Aspirated Human Bone Marrow, with Special Reference to the Hematocrit Patterns in Major Blood Disorders. A. MARMONT AND F. FUSCO, Genoa, Italy. Acta med. scandinav. *139*:387-410, April 30, 1951.

The present status of quantitative evaluation of the bone marrow activity is summarized by the authors, who briefly report the most significant observations made by means of direct counting and centrifugation (hematocrit) techniques. Notwithstanding the widely fluctuating results of earlier researches, and in spite of considerable theoretical criticism, the authors thought it worth while to reinvestigate the whole problem, performing direct enumerations and simultaneous hematocrit determinations on aspirated medullary blood.

To do so, care was taken to ensure a fixed aspiration volume, precision in the counting, and completeness of the packing in the centrifuged hematocrit tube. Six normal subjects and 50 patients ailing with miscellaneous blood diseases were studied, with a total of more than 80 sternal aspirations. The separation of the medullary suspension into four different layers is minutely described.

Findings recorded in the principal blood diseases are discussed and elucidated, with particular regard to the physiopathological nature of the disturbance of the bone marrow. In pernicious anemias nucleated marrow cells were extremely numerous, with a high, typically reddish marrow particle layer, often associated with red fat. A similar pattern was observed in genuine hemolytic anemias. In hypochromic microcytic iron-deficient anemias, the marrow appeared comparatively abundant in the so-called primary forms, scarce and fatty in those secondary to gastric malignancies. In aplastic anemias the great scarceness of nucleated cells, and the absence of an appreciable marrow layer, were an extremely characteristic finding. In leukemias and allied disease (multiple myeloma) a considerable, often enormous, augmentation of the cellularity of the bone marrow was clearly demonstrated by microscopic enumerations and by hematocrit findings. In hypersplenic conditions, such as thrombocytopenic purpuras and Banti's syndromes, the existence of a "full" marrow was more clearly demonstrated by quantitative methods, than by morphological investigations.

In the conclusions, the authors emphasize the existence of peculiar hematocrit patterns, some of which seem quite characteristic for specific blood diseases. Quantitative evaluation of the bone marrow organ by means of the above mentioned methods is therefore considered as feasible, provided that certain technicalities and precautions

are correctly performed. With these qualifications, it may prove to be a primary diagnostic aid in many bone marrow examinations.

Blood Levels of Reduced and Oxidized Cozymase in Cardiopatients. A. GALEONE, E. LEVI, AND G. SEGRE, Torino, Italy. Acta med. scandinav. *139*:308-18, f. 4, 1951.

The authors have carried out quantitative determinations of the reduced ($DPN.H_2$) and oxidized (DPN) form of cozymase in the blood of normal subjects, of subjects suffering from various diseases, and of cardiopatients with heart failure. Moreover, in a certain number of patients the influence of digitalis therapy on the two forms of cozymase in the blood has been studied. The results may be summarized as follows:

1) low values of DPN and particularly low values of $DPN.H_2$, statistically significantly, have been found in the blood of subjects with congestive failure;

2) the digitalis therapy restores to normal the values of DPN and of $DPN.H_2$, and the ratio $DPN.H_2/DPN$, within the first 48 hours after beginning the treatment, sometimes even before clinical signs of improvement appear evident;

3) the fall in cozymase in congestive failure is more pronounced in subjects with severe cyanosis;

4) in patients with cyanosis but without congestive failure *(morbus coeruleus)* there appeared to be a quite appreciable lowering of cozymase values;

5) in the case of several other diseases, when there was not a state of congestive failure and hypoxia, practically normal values of cozymase have been found.

The low cozymase levels found in congestive failure are referred by the authors to a breakdown of cozymase following the tissue hypoxia (probably by activation of DPNase). An attempt was made to correlate the dropping of cozymase with the metabolic impairment in carbohydrate metabolism found in congestive failure by several authors.

The rapid rise in cozymase after a course of digitalis treatment has been correlated by the authors with the functional heart conditions, and therefore to the normalization of circulation, but probably also to biochemical action of the digitaloids on the peripheral tissues.

In view of their constancy and ease of determination, the changes in blood levels of cozymase in cardiopatients following a cardiotonic treatment deserve attention as an early and remarkable sign of the efficacy of the treatment.

Relations between Pernicious Anaemia, Myeloid Leukaemia and Lymphatic Leukaemia. C. M. PLUM, Copenhagen, Denmark. Acta med. scandinav. *139*:276-91, f. 4, 1951.

Whether leukemia and pernicious anemia have etiological factors in common has been and is still questionable. With regard to heredity, there seems, according to Videbæk (1947), to be no doubt that the percentage occurrence of pernicious anemia is greater in families in which leukemia occurs than in those that have no cases of this disorder.

On looking at the clinical pictures in these groups of disorders, we find that they

are as different as are a number of the results of the clinical examinations generally employed in these diseases. It is quite a different thing when we consider the biochemical examinations; we are here confronted with a series of results the meaning or indication of which we have actually not yet realized to the full. We find, for example, that while the content of alkaline phosphatase in the blood corpuscles of patients suffering from myeloid leukemia is reduced, it is normal in patients suffering from lymphatic leukemia and increased in pernicious anemia. In this manner we thus have a clear distinction between the three groups, which is also the case in examinations of the excretion of tyrosine. If, on the other hand, we look at the occurence of cholinesterase, we find that it is reduced in erythrocytes as well as in plasma in pernicious anemia and myeloid leukemia, whereas cholinesterase is reduced only in the plasma in lymphatic leukemia. Thus it is seen that the two groups of leukemia are clearly distinguished, whereas pernicious anemia and myeloid leukemia have features in common.

It is difficult from the clinical laboratory examinations generally performed and from a series of more special biochemical examinations of pernicious anemia, lymphatic leukemia, and myeloid leukemia to make concrete conclusions concerning a relation between these two groups of systemic disorders; but much seems to indicate that in the chronic leukemias, in particular the chronic lymphatic form as it occurs in elderly people, we have to do with a deficiency disease similar to pernicious anemia.

It seems to have been elucidated that if we collect all clinical and biochemical observations, our knowledge does not yet suffice to answer the question: Is there a relation between leukemia and pernicious anemia? And the future work should therefore aim at illustrating as many facts as possible which may contribute to answering this question and thus lead to a lasting method of treatment of the various forms of leukemia. 6 tables.—*Author's abstract.*

ALLERGIC DISORDERS AND DISEASES

Existence and Role of Exogenous Tuberculous Superinfection in Subjects Previously Allergic. (Existence et rôle des surinfections tuberculeuses exogènes, chez les sujets déjà allergiques.) A. DUFOURT, Lyon, France. Presse méd. 59:585-86, April 28, 1951.

The role of exogenous superinfections in subjects previously allergic has been well evidenced. The contamination incidence between tuberculous married persons is about 10:100. The incidence in the medical and nursing staff of tuberculous' sanatoria is variable according to the region. A recent statistical survey by Cannetti and Robert shows that physicians, previously infected in the course of their medical study and having been cured, experience two and one-half more relapses if they have specialized as tuberculous' doctors than if they have practiced general medicine. Further evidence of the effective role of exogenous superinfection is given by the fact that primo-infection by bovine bacilli may change into tertiary tuberculosis by human bacilli and that the possibility of superinfection from organisms showing streptomycin-resistance at the first onset was recently demonstrated. French authorities in phthisiology have admitted exogenous superinfections to be quite proven. It is, therefore, advisable not to limit the concept of contamination of primo-infection in cases of tuberculosis.

A Hypothesis on the Physiochemical Pathogenesis of Hypersensitivity States and Collagenous Disease. S. H. JAROS, Tuckahoe, N. Y. Ann. Allergy *9*:133-47, March-April 1951.

A new hypothesis is presented wherein an attempt is made to correlate many past published observations of the factors that are involved at the physiochemical level in the pathogenesis of hypersensitivity states and collagenous diseases. It is pointed out that the hypersensitivity reaction taking place in the peripheral tissue is principally due to unantagonized histamine and acetylcholine. The hormonal tissue activity of these two compounds accounts for the pathological changes seen.

The progressive pathological changes seen in tissue is due to the predominance of the catabolic phase in which this mechanism allows the unantagonized deleterious effects of both acetylcholine and histamine to continue. Acetylcholine is formed in the tissues through the stimulation of the autonomic nervous system and hypothalamus through histamine, which in turn stimulates the adrenal medulla to secrete epinephrine. The epinephrine, in turn, enhances the synthesis of acetylcholine in the peripheral tissues.

The anabolic phase, which occurs simultaneously in normal individuals, is mediated through the anterior pituitary, adrenals, and liver giving a rise to enzymes, principally histamase and cholinesterase which antagonize the deleterious effects of both histamine and acetylcholine in the tissues, thus preventing the development of the pathology seen in hypersensitivity states and collagenous diseases.

The mechanism of the anabolic phase is presented as well as discussing and illustrating that adrenal corticoids of the mineral, glucose, and nitrogen type do not contribute toward any fundamental benefit in antagonizing such deleterious effects. It is proposed that the pituitary incites a group of enzyme-stimulating corticoids which give rise, through the liver, to the enzymes which antagonize the further synthesis and production of acetylcholine and histamine in the tissues.

A review of past and present therapy indicates that all measures that had been used successfully in the treatment of hypersensitivity states all have some pharmacological effects in antagonizing both histamine and acetylcholine.

The pathogenesis of hypersensitivity states and collagenous diseases is fundamentally based on an imbalance between the catabolic phase, which produces tissue changes due to acetylcholine and histamine, and the anabolic phase, which involves the secretion of enzyme-forming adrenocorticoids. 218 references. 1 figure. 1 table.—*Author's abstract.*

Uses and Abuses of Antihistamine Drugs. W. BOWEN SHERMAN, New York, N. Y. Bull. New York Acad. Med. *27*:309-24, May 1951.

The available antihistaminic drugs are all essentially similar in their action and side effects although varying both in potency and toxicity. No one drug may be said to be the best. These drugs are of value for symptomatic relief in allergic rhinitis, urticaria, and serum sickness and for the control of itching. In no disease do they have a curative effect. In asthma, their efficacy is less than that of older drugs. In the treatment of

the common cold, they do not alter the course of the infection but may afford some symptomatic relief. The commoner side effects are drowsiness and nausea. Long-continued use occasionally leads to leukopenia or agranulocytosis. Contact dermatitis not infrequently results from their topical use. On the whole, these drugs represent a definite contribution to therapy, but there is still room for newer compounds with greater potency and less toxic effects. In most of the allergic diseases, their efficacy is surpassed by that of cortisone and ACTH. 25 references. 4 figures.—*Author's abstract.*

The Later Development of Debilitated and Premature Infants. (L'avenir lointain des débiles et des prématurles.) JEAN LEVESQUE AND R. COFFIN, Paris, Bull. Acad. nat. méd. *135*:228-32, April 10, 1951.

The authors report a follow-up study of 95 premature infants who had been hospitalized for prolonged periods at the Salpètrière and 148 children with a history of prematurity and debility at birth who had not been hospitalized after a delivery; a supplementary study was made at a psychiatric clinic of 157 children with a history of prematurity. In the first group of 95 children, physical development was fairly satisfactory; they obtained their normal weight at about four years of age and their normal height at about three years of age. But 46 of these 95 children showed some abnormality of behavior. Anorexia was a common symptom, being persistent in 47 children, 36 of whom weighed less than 2 Kg. at birth. Enuresis persisted after the second year of life in 44 children. The intellectual development was studied by the Binet-Simon tests and by the school records. Only 4 of these children showed a superior intelligence, 20 an average intelligence, 25 retardation in school of one year, 8 retardation in school of more than two years; 3 were imbeciles or idiots. In this group it was noted that those who were hospitalized for the most prolonged periods showed the greatest degree of retardation and mental deficiency. In the group of 148 children who had been living at home, their weight at birth was somewhat higher than in the preceding group. They had attained their normal weight and height at approximately the same time as the first group. The incidence of behavior abnormalities and anorexia was about the same in both groups. The mental development, however, was definitely superior in this group as compared with the first group. Of these 148 children, 9 showed a superior intelligence, 82 a normal mental development, 34 a retardation of one year at school; 9 showed a retardation of more than two years, and 2 were idiots. In the study of the 157 children at the psychiatric clinic, instability, anorexia, and behavior abnormalities were found in 42 children with an average birth weight of 2.5 Kg.; 34 with an average birth weight of 1.8 Kg. showed a mental retardation of one or two years; and 32 of the same birth weight showed a mental retardation of two to five years. There were 1.8 cases of mental retardation of two to five years. There were 18 cases of mental retardation associated with convulsions, mongolism, etc., and 31 cases of nervous diseases, encephalopathy, etc. These findings indicate that prematurity plays the most important role in mental retardation, behavior difficulties, and psychomotor disturbances observed in children born prematurely; but that the prognosis can be improved by bringing up these children in a normal family environment without prolonged periods of hospitalization.

DEFICIENCY DISEASES AND METABOLIC DISORDERS

Diabetes Mellitus in Infants and Children. A. L. NEWCOM, Chicago, Ill. Illinois M. J. *99*:204-06, April 1951.

The prognosis of the newborn infant of the diabetic woman has been favorably influenced by the use of spinal anesthesia without analgesia, immediately aspiration of the gastric contents of the newborn infant, and delayed clamping and cutting of the umbilical cord.

The six cases of diabetes in infants were studied, and in only one was there a preadmission diagnosis of diabetes mellitus. Because the infants are often in a state of shock, diabetes is not immediately considered a possibility. The true diagnosis is suspected and established because hyperpnoea has persisted despite the disappearance of the other respiratory symptoms.

The principles of management and child diabetes are briefly outlined. No amount of time should be spared in teaching thoroughly the parent and the child regarding knowledge of diabetes, testing of urine, food principles, and technique of administration and knowledge of effects of insulin. 9 references.—*Author's abstract.*

Evaluation of Steroids in Rheumatoid Arthritis. B. M. NORCROSS, Buffalo, N. Y. New York State J. Med. *51*:1031-37, April 15, 1951.

Severity of the disease and evaluation of therapy with six steroid compounds (testosterone, desoxycorticosterone acetate combined with ascorbic acid, 21-acetoxy Delta 5-pregnenolone, Delta 5-pregnenolone, 16-dehydropregnenolone, and cortisone) in 66 patients with rheumatoid arthritis were graded according to standards established by the American Rheumatism Association.

Doses of the compounds administered daily were the same or larger than the usual amounts reported to produce successful results. Since 33 patients received more than one steroid, comparison of the results of different compounds in the same patient was possible. Pertinent clinical and laboratory observations are described.

Improvement occurred in a few patients with each of the other steroids, but in no group was the response comparable to that obtained with cortisone. All patients showed dramatic, objective improvement during cortisone therapy; 22 of the 24 patients in the group had previously failed to respond to the other compounds. One patient with severe osteoarthritis was improved by cortisone administration. An average daily dose of 12.5 mg. of cortisone was very effective in a patient with Addison's disease, who had developed an acute rheumatoid arthritis. 45 references. 7 tables.—*Author's abstract.*

The Enlarged Liver in Diabetes Mellitus: Its Determination. JOSEPH I. GOODMAN, Cleveland Heights, Ohio. Am. J. Digest. Dis. *18*:181-85, June 1951.

Palpation of the liver as a method of determining its size has proved to be unsatisfactory especially in adults and more so in the obese. In a previous paper concerning a group of patients with acute infectious hepatitis, the author developed a method of percussion which gave satisfactory correlation with the expected results clinically. The

upper and lower borders are carefully delineated with the use of moderate force in the case of the upper and more forceful percussion for the lower border of dullness. The measured distance between the upper and lower points is measured in the midclavicular line. In the present paper, it was determined that the area of liver dullness varied in normal women from 5.0 to 7.2 centimeters and in males from 5.0 to 7.8 centimeters, an average of 5.94 cm. and 6.46 cm. respectively. Any measurement above these limits is interpreted as abnormal.

In this study the size of the liver was carefully determined by percussion of the upper and lower borders in 101 unselected diabetic patients. Aside from the well regulated diabetic patient in all of whom the liver size was normal, there were 45 cases (44.5 per cent of the total) in whom hepatomegaly of some degree was present. On the basis of clinical data, the patients with hepatomegaly were subdivided into three distinct pathogenetic groups: (1) Acidosis and poorly regulated diabetes in which the size of the liver became normal very rapidly with the institution of adequate diabetic therapy; (2) Dietary deficiency, that is, the patients gave a history of frank deficiency in protein, vitamins, etc., and the hepatomegaly responding to a well-balanced diet; (3) Obesity—the overweight diabetic patient, who, like his nondiabetic brother, accumulates fat in all parts of the body including the liver. With weight reduction a reduction in the size of the liver can frequently be detected.

The Oxygen Consumption in Diabetes Mellitus. P. HORSTMANN, Odense, Denmark. Acta med. scandinav. *139*:326-30, f. 4, 1951.

Determination of the post-absorptive oxygen consumption in 84 diabetics showed an average increase of 10.3 per cent, independent of sex and age. Subcutaneous injections of insulin caused a transient fall of the oxygen uptake to normal values. This effect only lasted 3 to 4 hours.

The Nutrition of the Population During the Siege of Jerusalem. M. J. GUTMANN, Jerusalem, Israel. Acta Med. Orientalia *10*:49-56, 94-98, March-April, 1951.

I. *The civilian population's food, water, and heating supply during the disturbances and the war.*

Jerusalem's food supply was inadequate for a period of five to six months, from March to July/August 1948. The city had always depended on outside sources for food. In April, bread began to be rationed at the rate of 250 Gm. per day. Between April 10 and 30, the amount of ration was 1360 calories; it dropped to 960 calories in May and reached its lowest level of 670 calories in June. After raising slowly and unsteadily in July, the amount finally reached 2,000 in August. On reviewing the rations, one finds, foremost, a marked reduction of proteins, especially animal proteins, as well as a reduction of fat, vegetables, and fruit. The preparation of food was made difficult by many factors.

After May 7th the population received ten litres of water per head daily supplied to the houses by water tanks and carried to the flats in pails. This quantity was reduced sometimes to six litres. The electrical supply stopped completely on May 15th.

The last distribution of kerosene had taken place on March 23rd, and it was not distributed again until June 28th. More and more people had to rely on wood fires in the open air, but wood was very scarce, and, when the heavy bombing started, staying out of doors became more and more dangerous.

The externally visible effect was a general decrease in weight of the population of from 5 to 8 Kg. at least. A reduction of the physical capacity for activity was noted, in a number of cases a moderate bradycardia, occasional cases of apathy, but never edema. The rehabilitation period lasted three to four months, although sometimes longer.

The nutritional conditions had catastrophic effects on infants and small children. The ability to nurse decreased to a degree never encountered before. Toxicosis took on devastating dimensions, resulting very often in death. The development of small children was seriously handicapped; the 12 to 18 year old group suffered especially. Disease was not especially prevalent. During the hot summer months, the usual intestinal infections remained under the norm. Only in July and August was there a moderate amount of dysentery after the first shipment of fruit and vegetables. Tuberculosis and thyreotoxicosis became more serious, as well as a number of gastric and duodenal ulcers with a marked increase in perforated ulcers.

II. *The effect of partial starvation and excitement on allergic diseases.*

On the whole, the effect of this period of starvation on allergic patients was extremely slight. In regard to bronchial asthma, there was even a visible improvement. Cases of urticaria and angioneurotic edema caused by foodstuffs also showed improvement. The number of hayfever cases was the same as before, but the season was shorter than in previous years owing to lack of water.

We are confronted with the fact that, notwithstanding a reduction of food in general and of animal proteins in particular, patients suffered fewer attacks of allergic diseases, and at large intervals and their attacks increased in frequency afterwards in time of improved diets. We reported our cases for the very reason that these patients improved *in spite* of semi-starvation, not for this reason, and reproduced their asthma of old along with their gradual physical and mental recovery. This also applied, surprisingly enough, to psychologically-rooted cases. The condition of these patients tended to improve rather than to deteriorate during the siege.

Concerning therapeutic peculiarities, there was a marked sensibility of patients to epinephrine, of which much smaller quantities than hitherto were required to stop an asthmatic attack. The group of xanthins could, on the other hand, be used in considerable quantities above the average concentration. 13 references—*Author's abstract.*

Changes in Responsiveness to Insulin Induced by Desoxycorticosterone in Diabetes Mellitus. HYMAN J. ZIMMERMAN, ALVIN E. PARRISH, AND LOUIS K. ALPERT, Washington, D.C. J. Clin. Endocrinol. *11*:728-36, July 1951.

The demonstration by other workers of the ability of desoxycorticosterone to increase insulin sensitivity in rats presumably through the inhibition of the output of ACTH led to a study of the effect of this steroid on insulin sensitivity in human dia-

betes. In 9 insulin-insensitive diabetics and in 6 sensitive to insulin, the effect of DCA on the glucose-insulin tolerance curve was studied. An apparent increase in sensitivity to insulin occurred in 8 of the 9 initially insensitive patients, with reversion to the insensitive type of curve within several weeks after discontinuing the administration of the steroid. In none of the 6 patients initially sensitive to insulin, was an increase in sensitivity noted. The difference in response of insulin sensitivity to the administration of DCA was considered another evidence of the basic difference between the insulin-sensitive and the insulin-insensitive diabetic. 13 references. 4 figures. 1 table.—*Author's abstract.*

Serum Inorganic Phosphorus in Diagnosis of Diabetes Mellitus. N. G. SCHNEEBERG, Phila., Pa. J. Clin. Endocrinol. *2*:602-07, June 1951.

The value of determining serum inorganic phosphorus during the intravenous glucose tolerance test as an adjunct in the diagnosis of diabetes mellitus was investigated. The mean phosphorus fall after intravenous glucose (⅓ Gr./kilo) in 28 normal controls was 0.76 mg. per 100 cc., in 14 extremely mild diabetics 0.35 mg., and in 10 moderately severe diabetics 0.08 mg. compared to a fall of 0.04 mg. in 10 normal subjects given saline intravenously. Statistical evaluation of the data showed a significant difference between the mild diabetic group and the controls, though a substantial overlap occurred. Thus a phosphorus depression of 1.03 mg. or greater was required to definitely eliminate a diagnosis of diabetes mellitus. From 0.025 to 0.038 units of insulin were required intravenously to produce hypophosphatemia similar to that noted in the mild diabetic patients.

It was concluded that serum inorganic phosphorus determinations were of value as a diagnostic adjunct but required cautious interpretation because of the large overlap obtained in the groups studied. 8 references. 2 figures. 3 tables.—*Author's abstract.*

"Signe du Lacet" (Lace Sign). A Test Early Indicative of Vascular Changes in the Diabetic. M. LEVRAT, L. ROCHE, AND BRUEL LYONS. Paris, France. Presse med. *43*:890, June 23, 1951.

One of the writers has investigated the fragility of the capillaries in arterial hypertension with the lace test (signe du lacet) for more than ten years and was led to conclude that the test is most frequently positive in this condition.

Further researches were conducted during the last five years by the three authors, at first only in diabetes cases accompanied by arterial hypertension, then in all cases of diabetes. They describe the most simple technique for the test at the patient's bed as consisting in the use of the brassard of an arterial pressure manometer, the pressure being maintained for 5 minutes at 12 cm. Hg.

They have microscopically studied the mechanism of development of the purple patches caused by the pressure, in view of determining whether they originated from capillary or arteriole changes and from aneurysmatic formation or extravasation of blood.

From their investigations on 54 diabetic subjects with the lace test, and examination

of the *fundus oculi*, arterial pressure, albuminuria and all signs of visceral changes of vascular origin, they have come to the conclusion that the test is indicative of the arteriocapillary involvement in the diabetic.

It is always positive, without exception in diabetic retinitis; it is often positive in diabetic albuminuria; it is less regularly positive in arteritis of the limbs, cerebral and coronary arteritis in the diabetic. Its presence must always be questioned in all diabetics, for existence of positive "Lace Sign" is the first symptom which could be the precourser of diabetic retinitis.

The study of the lace sign is of interest in consideration of the vascular manifestations of diabetes, their pathogenesis, and relationship with the renal changes and hypertension.

Clinical Aspects of Dietary Depletion of Riboflavin. O. W. HILLS, E. LIEBERT, D. L. STEINBERG AND M. K. HORWITT, Elgin, Illinois. A.M.A. Arch. Int. Med. *87*:682-93, May 1951.

A study of pure riboflavin deficiency in man is reported, with special emphasis on the clinical aspects of the problem. Thirty-nine subjects were housed in a special research unit for a period of eighteen months and fed a carefully controlled and restricted diet.

Fifteen subjects were given a diet containing 0.55 mg. of riboflavin per day; fourteen received the same diet plus a daily supplement of 2 mg. of riboflavin; and ten were allowed to eat the regular hospital diet, which contained about 1.6 mg. of riboflavin. The two groups on the experimental regime received a basic diet of 2200 calories with 57 Gm. of protein and 65 Gm. of fat. Daily supplements to both groups consisted of 0.6 mg. of thiamine hydrochloride, 10 mg. of nicotinamide, 0.1 mg. of folic acid, 50 mg. of ascorbic acid, 4,000 U.S.P. units of vitamin A, 400 U.S.P. units of vitamin D, and 500 mg. of dicalcium phosphate. Ferrous sulfate (180 mg.) was given three times weekly. The riboflavin content of the diet was followed by analytical assays of about half the meals.

Twelve of the fifteen subjects on the 0.55 mg. of riboflavin diet developed clinical signs attributed to lack of riboflavin. The lesions were entirely limited to the skin and mucous membranes and appeared in nine to seventeen months after inception of the restriction. The most prevalent lesion was a scrotal dermatitis characterized by redness and scaling of the anterior surface of the scrotum and not involving the median commissure. Other lesions noted were angular stomatitis and a dry seborrhea of the scalp, *alae nasae* and other intertriginous areas. The course of the lesions was one of exacerbations and remissions. Several healed spontaneously, but all others responded dramatically to riboflavin administration except one case of angular stomatitis which had become chronic over a period of several weeks. This also healed gradually in about three weeks with 6 mg. of riboflavin supplementation daily.

Among the negative studies of interest were: 1) The complete lack of ocular signs such as circumcorneal injection or vascularization of the cornea. 2) The lack of any fundamental change in the capillary bed. 3) The lack of change in carbohydrate toler-

ance as manifested by lactic and pyruvic acid response to the standard glucose tolerance test. This last finding was in marked contrast to that noted in subjects deficient in thiamine.

Studies of the excretion of riboflavin in the urine suggested that the riboflavin requirement of a sedentary adult male is between 1.1 and 1.6 mg. per day and that a reserve of riboflavin cannot be maintained on levels of intake below 1.1 mg.

Experience with the pathogenesis of lesions in the deficient subjects secondary to trauma, poor hygiene, and herpes simplex, and comparison with reports in the literature, led to the theory that ariboflavinosis is the lack of an important accessory to tissue repair. Lesions, therefore, in the presence of riboflavin deficiency, occur in those areas subject to chronic trauma and in those subjects, under the conditions of this study, receiving not more than 0.6 mg. of riboflavin per day.

Some New Information on Basal Metabolism in Old People. (Nouveaux documents sur le metabolisme basal des vieillards.) L. BINET AND F. BOURLIERE, Paris, France. Presse méd. *59*:557, April 25, 1951.

The authors review the literature on basal metabolism in old people and review their previous works published in 1948 concerning their investigations on 30 men and 56 women of age ranging from 70 to 92 years. Since then they have continued their researches, and in the present paper, after a description of the technic used, they give tabulated results of the evaluation of basal metabolism in 23 men and 114 women between 70 and 99 years of age. Their study confirms Kountz and Chieffi's opinion that a fall in the consumption of oxygen is characteristic of the aged in good health and that a rise is a sign of development or aggravation of degenerative diseases. On the other hand, the basal metabolism was found to be higher in old people affected with arterial pressure above 20 cm. Hg. systolic and 11 cm. Hg. diastolic. Finally, the normal diminution in oxygen consumption proved *reversible* at least temporarily, as it was possible to raise the basal metabolism in some old men with implants of testosterone tablets or administration of thyroid extract and iodocasein. 12 references. 2 tables.

NERVOUS AND MUSCULAR DISORDERS AND DISEASES

Physiology of the Cerebral Cortex and Basal Ganglia in Relation to the Symptoms of Cerebral Palsy. H. W. MAGOUN, Los Angeles, Calif. Quart. Rev. Pediat. *6*:113-27, May 1951.

A discussion of aspects of neurophysiology related to cerebral palsy presents recent findings from many sources, bearing upon the symptoms of paralysis, spasticity, and involuntary movement which are present in such a large proportion of patients with this disorder.

The pyramidal motor system whose excitation results in movement and injury to which is followed by paralysis, has been found to have broad cortical origins, with a significant spatial representation of body parts. It contains a large collection of small

fibred elements and evokes anterior horn cell discharge only through the intermediation of spinal interneurons.

The enhancement of postural reflexes called spasticity, which follows injury to suppressor systems of the brain, depends upon facilitatory influx to the cord; normally balanced by suppression, but exerting an augmented influence in its absence. Extrapyramidal connections with the reticular formation of the brain stem and reticulospinal paths are important in indicating these influences, and their abnormal function probably underlies symptoms of involuntary movement as well.

Brain Abscess in a One Month Infant. Case Report No. 206. ROBERT H. PARROTT, Washington, D. C. Clin. Proc. Child. Hosp. 7:131-34, April 1951.

This is the report of a case of brain abscess fatal to an infant at one month of age. The baby, a colored boy, was born of a labor said to have been prolonged and difficult. He did well until his seventh day of life when he developed gasping respiration, anorexia, and a bout of cyanosis and apnea. During the first few hours in the hospital, he had one further episode of apnea and showed transient lateral nystagmus but no other eye signs, meningeal signs, or evidence of neurological involvement. The remainder of the physical examination and the laboratory studies were normal. On oxygen therapy the child improved and showed no further respiratory distress. Discharged from the hospital after thirteen days of observation, the baby remained asymptomatic until a few days before the final admission at the age of one month. At that time, following mind rhinorrhea and cough, a bout of cyanosis precipitated his return to the hospital. On admission, he was an acutely ill, slightly cyanotic stuporous infant whose cranial sutures were widely separated and fontannelles bulging. There was marked nuchal rigidity and a positive Kernig's. During the examination he had a tonic convulsion with opisthotonus. An attempted ventricular tap on the right side yielded viscid yellow-green pus in large amounts. Despite repeated aspiration of pus, sedation, parenteral fluids, and antibiotics, there were further episodes of apnea followed by opisthotonus and Cheyne-Stokes respirations. The child expired sixteen hours after admission.

Escherichia intermidius was cultured from the aspirated pus. Autopsy examination showed a subacute brain abscess in the right occipiral lobe which had ruptured into the ventricular system. An early abscess appeared to be developing in the left cerebellar lobe. There was also some degree of subarachnoid hemorrhage, pulmonary atelectasis, and moderate renal glomerular atrophy with tubular degeneration.

This was the youngest case of brain abscess among the autopsy files at Children's Hospital, Washington, D. C. and was among the youngest in the available literature. The causative organism was unusual in that infantile intracranial abscesses are usually staphylococcal in origin. Speculation on the pathogenesis of the lesion in this case eliminates: direct implantation; direct extension from an adjacent source; or metastatic spread from an evident source of infection. The origin may have been intrapartum or intragestational in time.

An awareness of the possibility that brain abscess may occur in infants could lead

to a reduction in the almost 100 per cent mortality in this age. It would seem pertinent then to investigate fully for cerebral pathology when an infant presents unexplained symptoms that may be referable to early brain damage. 4 references.—*Author's abstract.*

Dormison, a New Hypnotic. ABBOTT W. ALLEN AND D. D. KRONGOLD, New York, N. Y. Quart. Bull., Sea View Hosp. *12*:61-4, April 1951.

Dormison, 3-methyl pentyne-ol-3, consists only of carbon, hydrogen, and oxygen. Containing no barbituric acid radical, sulfone group, nitrogen, or bromide, it differs chemically from any hypnotic now in use.

Pharmacologic studies have shown that the drug is rapidly metabolized and has an extremely low order of toxicity. The LD/50 in rats is 840 mg. per Kg. or approximately 80 times the effective dose in man.

Dormison was administered to a group of hospitalized tubercular patients in nightly doses of 250 to 1000 mg. over a period of several months. All of these patients had required some form of a hypnotic to induce sleep, so that in most of them a comparison could be made between Dormison and the previously used hypnotic. Six patients requiring 100 to 300 mg. of sodium pentobarbital nightly to induce sleep were adequately controlled with 250 to 750 mg. of Dormison. Similarly, Dormison effectively replaced phenobarbital and codeine (100 mg.) in one patient on each. In two patients on sodium pentobarbital and two on phenobarbital, Dormison was not as effective in the doses employed. There were no toxic reactions to Dormison either subjective, objective, or by laboratory examination.

In this study Dormison was shown to be a safe, nontoxic, reliable hypnotic. The drug readily induced restful sleep in the group tested. There were no side reactions, and there was no "hangover." 2 references. 1 table.—*Author's abstract.*

MISCELLANEOUS

A Subsequent Report on Dramamine. L. N. GAY, Towson, Baltimore, Md. Mil. Surgeon *108*:324-31, April 1951.

During the past two years the several pharmacological investigations have thrown light on the possible action of Dramamine. The research of Himwich and White and Mitchell indicates a central action. The investigations of Haley and Batterman point to local action on the blood vessels and on the labyrinth. Therapeutic trials have demonstrated great relief which seasick, carsick, and airsick travelers obtain if 50 to 100 mg. of Dramamine is taken after the onset of symptoms. Unlike any drug heretofore reported as a remedy of motionsickness, Dramamine can be taken in proper doses by the majority of travelers for an indefinite number of days with no unpleasant symptoms. Controlled prophylactic trials previously reported by Gay and Carliner have been just as successful when the drug was administered 15 minutes prior to departure of a ship, car, or plane.

Medical aspects of passenger flight in commercial airlines have been reported by Lederer, Kidera, and Tuttle of the Capitol Airlines and United Airlines. For many years various drugs have been tried in an effort to control airsickness, and these investigators have long since concluded that the hyoscine-scopolamine derivatives and other sedatives were not effective once the symptoms of motionsickness had been felt by the passengers. Lederer and his associates, from their observations over a period of months, report that Dramamine is the drug of choice against motionsickness in air travel as a therapeutic drug. Furthermore, the only side reaction that was reported by these investigators was some drowsiness which in no instance caused any serious inconvenience. Additional reports from the medical directors of several other airlines confirmed the work of Lederer and Tuttle.

The efficacy of Dramamine in labyrinthine disturbance following fenestration has been demonstrated by Campbell. Gay's report also presents the results obtained by the administration of Dramamine (50 to 100 mg. every four hours) to patients with various types of dizziness, of labyrinthine as well as of central origin. The benefits these patients derived from the drug show that Dramamine should be given to all patients with disturbance of balance before resorting to section of the nerve by the neurosurgeon, or to the destruction of the labyrinth with alcohol injection or electrocoagulation by the otologist. 18 references. 4 tables.—*Author's abstract.*

Anaesthesia for Bronchography in Children. W. W. MUSHIN, Cardiff, Eng. Anaesthesia 6:88-91-95, April 1951.

Efficient anesthesia for this operation allows:

1) The radio-opaque oil to be instilled without production of coughing and movement or interfering with quiet breathing.
2) The child to be postured as desired during and after the instillation.
3) Active coughing to be resumed at the end of the operation in order to clear the respiratory tract.

Struggling, fright, coughing during injection and delayed recovery are all undesirable.

Various techniques of anesthesia and bronchography in use at present are discussed, and their short-comings pointed out. The authors advocate the following method. Basal anesthesia is induced with rectal bromethol (Avertin) (100 mg./Kg.) after a suitable dose of atropine. If necessary, anesthesia is then deepened with a little trilene until the larynx can be exposed. A puff of 5 per cent cocaine solution from a fine atomizer is directed onto the larynx, and a small bore catheter of 2 to 4 mm. outside diameter is passed a short way into the trachea. An injection of ½ to 1 ml. 2.5 per cent cocaine is made through this catheter. Within a few minutes, quiet breathing is present, and the radio-opaque oil can be injected through the catheter. The child is then postured at will. Cocaine is used because of its short duration of action, the total dose used never exceeding 1 mg. per lb. body weight. Breathing takes place freely round the catheter, and when this is of the size advised, respiratory embarrassment is practically negligible.

With the method advocated, the breathing is quiet, coughing and movement are absent, the oil is injected with certainty into the trachea, and the radiologist carries out his technique without duress. The child is not fearful and apprehensive. There is no explosion risk. 7 references.—*Author's abstract.*

Experience in the Treatment of Juvenile Rheumatoid Arthritis with ACTH. S. VAN GREVELD, E. DINGERMANSE, L. G. HUIS IN'T, AND F. KUIPERS, Amsterdam, The Netherlands. Ann. pædiat. *176*:201-24, April 1951.

This describes 3 cases of rheumatoid arthritis in children treated with ACTH ("Cortorophine"). One child showed improvement which was maintained for four months with small doses and presented no undesirable side effects. But after five months an exacerbation occurred that did not respond to ACTH. A course of gold therapy was given, and the patient was maintained in relatively good condition, much better than when the ACTH therapy was begun; she has few subjective symptoms and is no longer bedridden. In the second case, improvement was prompt at first on relatively small doses of ACTH; when the arthritic process again showed activity, larger doses had to be used, and this resulted in slight toxic symptoms—moon face, diabetic blood-sugar curve, and pigmentation; these symptoms all subsided when ACTH therapy was stopped. The administration of gold salts maintained much of the improvement noted with ACTH therapy when this was discontinued. In the third case, there was considerable improvement under ACTH therapy maintained for three months without signs of ill effect. Because of long-standing joint deformities, which did not show definite improvement under ACTH therapy, this was stopped, and the patient was sent to another hospital for the orthopedic treatment indicated. A study was made of the excretion of 17-ketosteroids in the urine in these cases. It was found that the excretion of the 17-ketosteroids was increased at first and reached a fairly constant level in about a month; further prolongation of the treatment resulted in a diminution in the excretion of 17-ketosteroids. Giving the daily dosage in four divided doses made it possible to obtain clinical improvement with the characteristic effect on the excretion of the 17-ketosteroids with a small total dosage. 24 references. 4 tables. 17 figures.

Common Orthopedic Problems of Childhood. J. H. RENO, Bethlehem, Pa. Saint Luke's Hosp. Bull. *6*:21-48, May 1951.

The author discusses the above subject starting out with a rather full discussion of the relaxed or flat foot found in children. Various forms of flat foot are covered and treatment indications listed. Congenital club foot is fairly covered as is congenital dislocation of the hip. Considerable emphasis is placed upon early recognition and treatment of these two deformities. Paralytic foot deformities are discussed generally with most attention being paid to those of poliomyelitis and cerebral palsy. The miscellaneous foot disabilities of primary congenital deformities, acquired flat foot, the various osteochondritides, and injuries are likewise briefly discussed. The author points out the symptoms referred to the knee in hip disease and briefly the various knee disabilities of childhood, knock-knee, bowleg, Osgood-Schlotter's osteochondritis, and

knee injuries are discussed. The difficulty of handling a case of fracture of the hip in a child is stressed along with an adequate discussion of the various infectious arthritides, tuberculosis, and osteochondritis of the hip joint. Slipping of the femoral epiphysis and Legg-Perthes disease are given attention. The various spine deformities, primarily those of congenital deformities, scolioses as a result of these, spondylolisthesis, and the various syndromes affecting primarily the upper portion of the spine are mentioned, and the author makes a strong plea for early removal of the contracted deformities such as spinal extradural cysts, etc., are mentioned. Infection, including both pyogenic and tuberculosis, is briefly covered as are the various causes of scoliosis. Treatment, of course, is briefly described. The various birth injuries affecting childhood are mentioned and the author makes a strong plea for early removal of the contracted fibrous tissues seen in congenital wry neck. Brachial plexus injuries are described adequately, and a fairly satisfactory covering of cerebral palsy is presented. Poliomyelitis is briefly discussed, along with the various diseases and disabilities which may give rise to the same type of disability. Among these are the disability known as the Guillain-Barre syndrome, diphtheritic neuritis, and the various muscle dystrophies including amyotonia congenita, progressive muscular dystrophy, and Charcot-Marie-Tooth progressive peroneal atrophy. Neurofibromatosis and the various arthritides, such as rheumatoid arthritis, and osteomyelitis, are briefly covered. The various bone tumors are mentioned, and there is a short list of the very rare deformities and congenital abnormalities seen in young children.

The paper is primarily descriptive, and operative treatment is not stressed other than the mere naming and indications of the various procedures. No operative details are given. Nonoperative treatment is thoroughly described when practical.

Poisoning with Acetylsalicylic Acid Given Therapeutically to Infants and Children. T. IVERSEN AND E. SCHIODT, Denmark. Ugeskr. Laeger. *113*:443-55, April 12, 1951.

Four cases of acetylsalicylic acid poisoning in children are reported. Two cases had simple poisoning while the other two also had bronchopneumonia.

(1) A boy aged 2 years received 18 Gm. during 14 days.

(2) A boy aged 7 months received 1¾ Gm. during 1 day.

(3) A boy aged 2 years received 6-7 Gm. during 6-7 days.

(4) A girl aged 6 months received 3 Gm. during 3 days; died.

The literature on acetylsalicylic poisoning in children is reviewed. It is pointed out that the drug is more toxic to sick children and that the diagnosis may be difficult in these cases. The symptoms and signs are described from the study of 39 cases reported in the literature and from the authors' own 4 cases. The main symptom is hyperpnea; in addition, the child is often dehydrated and may be apathetic or delirious. In severe cases, coma and shock dominate the picture. The disturbance of the acid base balance and the changes in the electrocardiogram, of which the prolongation of the systole is the most notable, are discussed. The clinical picture may resemble pneumonia, myocarditis, sepsis, and diseases causing acidosis.

For treatment 0.9 per cent sodium chloride and 5 per cent glucose, given subcutane-

ously, to combat the dehydration and ketosis is recommended. In addition, 1.3 per cent sodium bicarbonate given subcutaneously or intramuscularly is recommended for all cases in order to correct the acid base balance and to increase the excretion of salicylate, though the dose must be small in order to avoid alkalosis.

Finally, it is concluded that acetylsalicylic acid ought not to be given during the first years of life and must never be given if the child has pneumonia.

Anoxemia and Hippocratic Finger. (Anoxémie et hippocratisme digital.) P. P. LEVY, Paris, France. Presse méd. *59*:490-93, April 11, 1951.

It was once believed that hippocratic finger was the distinguishing feature of tuberculosis, but it is recognized today that the complete deformation with end swelling similar to a drumstick is rarely encountered in pure pulmonary tuberculosis. On the contrary it is almost always present in major pulmonary and pleural suppurations.

Apart from cases where a mechanical factor is obvious (vascular pressure, stasis), a pulmonary or extra-pulmonary infection, a visceral or septicemic infection is to be found.

The writer thinks that, whatever the initial cause, hippocratic finger is dependent upon tissular anoxia which is connected to anoxemia.

Two types should be considered:

1) Cases of mere mechanical origin, *where the red cell is safe* (cardiac cyanosis): very low oxyhemoglobin saturation, but response of the blood to the oxygen inhalation test.

2) Cases of toxemic origin, *with involvement of the red cell:* less low oxyhemoglobin saturation, but no response of the blood to oxygen inhalation test.

In pure pulmonary tuberculosis there is practically no hippocratic finger because Koch's bacillus, in contrast to pyogenic bacteria, exerts no reducible action on the blood as experimentally demonstrated *in vitro* and *in vivo.*

The writer observes that this concept of the pathogenesis of hippocratic finger includes in the same determinant agent (anoxemia) the two main causes, apparently incompatible, formerly considered: *disturbances in hematosis* by defect in the container, that is the vessel, and *toxi-infection* which disturbs the hematosis by deterioration of the contents, that is deficiency of the red cell.

The Importance of Liver in the Dietary for Tuberculosis. J. GERSHON-COHEN, Eagleville, Pa. Am. J. Digest. Dis. *19*:25, July 1951.

The large quantity of liver required for effective therapy in pernicious anemia and the undesirability of giving it parenterally to debilitated patients receiving other forms of treatment led to a search for a palatable concentrate which could be taken as a food. Such a product was obtained by cooking fresh chopped liver slowly in a double boiler at a low temperature. When a pound of beef liver, diced and put in a double boiler without water, is allowed to simmer in its own juices for 3 to 4 hours by keeping the water in the lower part of the boiler at the minimal boiling level, about 8 ounces of

broth are procured. This broth, as a 4-ounce cocktail, equivalent to a half pound of liver, was served daily for three months to 31 patients at Eagleville Sanatorium, Eagleville, Pa. The controls consisted of 29 patients in the same group and in approximately similar stages of the disease. For both groups, the diet and medication were similar. At the beginning and at the end of this experiment, x-ray studies of the lungs, blood sedimentation rates, sputum examinations, blood counts, weight charts, fever records, careful tabulation of food intake and medication, analysis of caloric, protein, fat, carbohydrate, vitamin and mineral constituents of the diet, and a clinical evaluation of the disease during the three months' period, of each patient, were recorded to determine the clinical effect of the liver supplement in the dietary.

The only clinically observed change was in the weight tables, and these showed that the individual average gain in weight of the liver group was 3.27 pounds as compared to 1.72 pounds in the control group. This seemingly beneficial result was not otherwise manifested in the clinical improvement of the patients in the liver group, although in two cases spectacular improvement coincided precisely with the liver intake. A similar observation was not encountered in the control group.

Some observations already made would indicate that antibiotics can excite a stimulating effect on growth. In the 7 patients receiving streptomycin, instead of a weight gain, an average individual weight loss of one-half pound occurred, while in the 7 patients receiving both streptomycin and liver, an average individual weight gain of two and one-half pounds was observed, so that the weight gain observed in the liver-treated patients would seem to have been more an effect of the liver than of streptomycin therapy.

Paediatric Neurosurgery. A. N. GUTHKELCH, Manchester, England. Med. Illustrated. *4*:299-306, June 1950.

Almost the whole of this article is devoted to cranial surgery in children. Increased intracranial pressure in an infant is not commonly associated with papilloedema, but with enlarged head. Not every case of enlarged head is a case of idiopathic hydrocephalus; it may be the sign of an operable condition such as infantile subdural hematoma or cerebral abscess.

Papilloedema is much commoner in older children and may occur within 48 hours of the increase in pressure. Widened suture lines in x-rays should always be looked for.

The writer doubts whether hydrocephalus itself is ever due to excessive formation of cerebrospinal fluid or at all commonly to a primary deficiency of absorptive mechanisms. He still feels that if the block is local and localizable it should be attacked (in preference to drainage outside the central nervous system).

Infantile subdural hematoma should be treated by repeated aspiration always combined with the removal of the membrane, if one exists.

The severity of a closed head injury is best assessed by the duration of disturbed consciousness or in older children, the post-traumatic amnesia. There is also some guide in the degree of bloodstaining of the cerebrospinal fluid. There is little relation between the severity of brain damage and the amount of fracturing of the skull. Epilepsy occurs

more frequently after cranial trauma in children than in adults. The main indications for operation in a case of head injury are intracranial clots (suspected by any late deterioration in conscious level), compound wounds, and fractures into the paranasal sinuses with cerebrospinal rhinorrhea or meningitis.

Cerebral abscess is managed the same way in children as in adults, but it may be very difficult to recognize.

Intracranial tumors in children are usually cerebellar, and about half of them are malignant. Even where a medulloblastoma is strongly suspected from the shortness of the history, it is better to perform an exploration and decompression rather than immediately to refer the patient for radiotherapy, because the symptoms in a benign cystic tumor may advance as rapidly as in a solid malignant one. Malignant gliomas almost always run a fatal course within three years; experience suggests that a long survival is more likely to follow complete excision of such a tumor followed by radiotherapy, rather than radiotherapy after biopsy alone.

Plastic materials such as polythene are being used more and more in pediatric neurosurgery both for continuous internal and external drainage of the cerebrospinal fluid and in Ingraham's operation for craniostenosis in which the skull is morcelated and the cut edges of bone separated from one another by polythene film. On the other hand, the writer prefers to cover skull defects by bone graft rather than by either plastics or tantalum.

In all neurosurgical operations on children, there should be the closest cooperation between surgeon and anesthetist, and anesthesia should be intratracheal. Any form of rebreathing or circle absorption apparatus must be avoided and special care should be taken to avoid introducing the intratracheal tube so far as to occlude a main bronchus (which is easy to do in a baby). It is essential to be ready for blood transfusion in every case and to transfuse immediately an amount equal to the blood loss. There is never any danger in restoring a rapid blood loss by a rapid replacement. 5 figures.—*Author's abstract.*

Water Depletion in the Comatose Patient. EARL F. WOLFMAN, JR. AND HENRY K. SCHOCH, Ann Arbor, Mich. Univ. Hosp. Bull. Ann. *17*:73-82, March 1951.

A case of water depletion in a febrile, comatose, post-traumatic neurosurgical patient is described. The factors of constant fever and increased protein catabolism contributed to the severity of the dehydration. Recognition of the disorder was masked by the lack of symptoms of thirst (the patient remaining comatose) and the large urine volume. Treatment rapidly corrected water balance and improved electrolyte balance.

Water depletion will result whenever intake is insufficient to balance the obligatory losses of water from the body. Obligatory losses include insensible loss by vaporization through the lungs and skin and the minimal amount necessary for excretion of metabolic wastes at the maximum concentrating capacity of the kidney.

Early recognition of water depletion depends upon the ability of the patient to signify thirst. Excretion of small urine volumes may be helpful, but large urine volumes do not necessarily reflect adequate hydration.

Prevention of water depletion requires careful attention to the needs of the patient maintained for long periods of time on parenteral fluids. Adequate intake of water, carbohydrate, and calories are important. Administration of sodium chloride is not helpful, but potassium supplements may be of value. 8 references. 2 tables.—*Author's abstract.*

An Internist Views the Surgical Treatment of Peptic Ulcer. W. L. PALMER, J. B. KIRSNER, AND E. LEVIN, Chicago, Ill. J.A.M.A. *145*:1041-44. April 7, 1951.

In the surgical treatment of gastric ulcer, subtotal gastrectomy is favored because it removes the lesion whether benign or malignant, and the incidence of recurrent jejunal ulcer is almost nil. In the surgical treatment of duodenal ulcer, vagotomy and gastroenenterostomy is the operation of choice, rather than subtotal resection, because the procedure is physiologically more rational; it is less radical; the mortality rate is lower; the "bridges are not burned"; the end results seem fully as good as, if not better than, those of resection; and the side effects are no worse. In jejunal ulcer, vagotomy seems to be the generally accepted procedure. For the extremely small group of patients in whom vagotomy and resection both fail, further resection seems to be the only surgical recourse, even though the mortality rate is considerable. 7 references. 9 tables. —*Author's abstract.*

Radioiron Studies in a Case of Hemochromatosis. T. ALPER, D. V. SAVAGE, AND T. H. BOTHWELL, Pretoria, South Africa, Q. Lab. & Clin. Med. *37*:665-75, May 1951.

A young adult white male, suffering from hemochromatosis and exhibiting signs of myocardial damage and sexual hypoplasia was subjected to radioiron studies. He was given a 34 mg. dose of radioiron, and the subsequent course of the iron was traced by assays on the faeces, *in vivo* measurements over many body sites, and by assays of radioiron in blood samples. One healthy control was also studied.

The feature of the study was the large percentage of 34 mg. radioiron taken up by the patient and stored in the body. About 60 per cent was retained as compared with 14 per cent in the control. After six days 1.4 per cent of the administered dose was circulating in the blood, and this figure gradually rose to a maximum of 4 per cent after 100 days. The uptake in the liver, as judged by *in vivo* measurements, was very high, and there seemed to be a real deposition of radioiron in the heart. This contrasted markedly with the results in the control where no significant readings could be obtained in the blood or over the liver several days after the giving of the radioiron. 15 references. 5 figures. 4 tables.—*Author's abstract.*

Chloromycetin in a New Parenteral Solution. EUGENE H. PAYNE, Detroit, Mich., ATHEMAS BELLERIVE, Haiti, JOHN E. GAJEWSKI, Detroit, Mich., AND LAFONT, JEAN, Haiti. Antibiotics and Chemotherapy *1*:138-39, May 1951.

Successful use of chloromycetin for parenteral application is reported. A 50 per cent acetyl dimethylamine solution in water is used as the vehicle in which 25 per cent chloromycetin is dissolved. This solution was given either undiluted, or diluted in

either psysiological saline, water, or glucose solution and administered by infusion. Mild transient reactions were observed when the undiluted solution was given intravenously. These reactions consisted in a slight rise of temperature, slight fall in blood pressure, and a feeling of perineal warmth. Occasional vomiting was encountered when the undiluted drug was given intravenously if the patient had a full stomach but did not occur when the stomach was empty.

Application of Tests of Renal Function to Renal Disease. NORMAN N. KEITH, Rochester, Minn. Med. Clin. North America *35*:943-57, July 1951.

During the years 1910 to 1915, phenolsulfonphthalein was developed as a renal functional test, and accurate microchemical methods were devised for determining constituents of body fluids including urea. Since then the clinical evaluation of renal function has become a routine procedure.

Clinical tests of renal function include the excretion of water by the kidneys and the range of specific gravity of the urine; the phthalein test includes estimation of blood urea and urea clearance. The concentration of creatinine in the blood is particularly helpful in estimating the extent of renal damage. Excretory urograms observed after the injection of opaque iodine compounds give valuable information as to the size of the kidneys and deliniation of unilateral lesions.

Tests of intrarenal function have played an important role in the clinical investigation of renal disease. They reveal alterations in renal hemodynamics and give important information regarding temporary dysfunctions of the kidney. The influence of extra renal factors such as shock, dehydration, certain salts, and myocardial failure on renal function has been clarified. This new knowledge has stimulated the use of helpful therapeutic measures so often beneficial in the contemporary treatment of uremia. 63 references. 2 figures.—*Author's abstract.*

The Clinical Use of a Water-Chloride Balance Technic. CLIFFORD F. GASTINEAU AND BELDING H. SCRIBNER, Rochester, Minn. Med. Clin. North America *35*:1113-27, July 1951.

This paper describes a technic for the measurement of water and chloride balances which has been in use at the Mayo Clinic for the last several years. This technic was devised by one of us (Scribner) as a means of planning therapy for patients presenting problems in electrolyte metabolism.

Measurement of the intake and output of water and chloride is accomplished by saving all excreta in labeled containers and later measuring their volume and analyzing them for chloride ion. A method has been devised for estimating the concentration of chloride ion in such body fluids as urine, vomitus, serum, and stools, which can be carried out at the bedside.

These data are tabulated in a form which permits the attending physician to tell at a glance the balance of chloride and water, i.e., the amounts of chloride and water being lost and gained.

The usefulness of such a scheme in the care of the patient presenting various forms of dehydration and overhydration is discussed. A classification of disorders of electrolyte metabolism is given, and the clinical physiology is reviewed. 9 references. 4 tables. *—Author's abstract.*

Terramycin in Soft Tissue Infections. LOUIS T. WRIGHT, JOHN W. PARKER, FARROW R. ALLEN, AND MADCOLM BEINFIELD, New York, N. Y. Antibiotics and Chemotherapy *1*:165-72, June 1951.

Terramycin was used in the treatment of 101 cases of soft tissue infections divided as follows:

Cellulitis	51
Infected Lacerations	11
Postpartum Mastitis	7
Carbuncles	6
Axillary Furunculosis	4
Human Bites	3
Cellulitis of the Floor of the Mouth	2
Gas Gangrene	2
Pilonidal Abscesses	2
Thrombophlebitis of the Leg	2
Ischiorectal Abscesses	2
Infected Burns	2
Paronychia	2
Chronic Omphalitis	1
Severe Stomatitis with Ulceration	1
Severe Sycosis Vulgaris	1
Compound Skull Fracture and Epidural Abscess	1
Dog Bite of the Leg	1
	101

Terramycin proved to be of excellent therapeutic value in all instances. There were no serious side reactions in this series of cases. The results obtained from the clinical use of terramycin in surgical infections have paralleled those that were secured in this clinic with the use of aureomycin. Bacterial and sensitivity studies should be made by the surgeon when possible to determine the antibiotic to be used in each serious case. The use of terramycin in this group of cases reduced to a minimum the number of surgical procedures which would otherwise have been required in infections of this nature.

Terramycin is a valuable addition to the armamentarium of the surgeon who is concerned with the responsibility of handling soft tissue infections.

dermatology

A Note on the Treatment of Lupus Erythematosus with Vitamin E. J. MORGAN, London, England. Brit. J. Derm. *63*:224-25, June 1951.

A series of cases were treated with mixed tocopherols (alpha, beta, and gamma). Only those who persisted with the treatment for five months or longer are considered. Daily 600 mg. were given by mouth. In each case, the diagnosis was confirmed histologically. Response to previous treatment had been slight or none.

Number of cases	10
Age incidence	19-66 years
Sex	5 Female, 5 Male
Duration	From 3 months to 22 years
Type of lesion	1 Disseminated, 9 Discoid
Result	2 Improved, 4 No change, 4 Worse

It is impossible to form final judgment on so small a number of cases, but it seems that little benefit is to be expected in *Lupus erythematosus* from tocopherols even when given in massive doses over long periods. 4 references. 10 tables.—*Author's abstract.*

Some Scientific Advances in Dermatology. THEODORE CORNBLEET, Chicago, Ill. J. Lancet *71*:275-80, July 1951.

Reference is made to the five pigments contributing to skin color. Some of the newer work on melanin pigmentation is discussed, such as the different mechanisms of melanin formation, i.e., the tyrosine-tyrosinase system, the origin of the melanoblasts in the neural crest, the tracings of the development of melanoblasts in the Negro infant, properties of melanin granules, and cystosiderin granules in hemochromatosis.

In the discussion on the glands of the skin, topics alluded to are nervous control of sweat glands with pharmacological evidence and the newer knowledge of sweat duct closure with profuse sweating in the induction of miliaria and related entities. Under consideration of the sebaceous gland, it was brought out that removal of surface oil stimulated the oil glands to produce more, while lower temperatures congeal sebum and thus act as a brake to further secretion. Testosterone increases the number and size of sebaceous glands of the scalp. Vitamin E is present in sebum, and rancidity is absent even after considerable intervals of not bathing. Peculiar short chain fatty acids in scalp sebum increase after puberty and may be a factor in preventing fungous infection.

Some of the newer work on arterenol or norepinephrine in connection with the adrenergic sympathetic nerves is discussed and also the method of arborization of cutaneous nerve endings and effects on pain and touch sensations. Recent work on skin enzymes is touched on. The mucopolysaccharides, the enzymes acting upon them, and the spreading factors are alluded to.

In syphilology a big advance occurred in the demonstration and description of the treponema immobilization test by antibody produced during syphilitic infection. This

may lead to direct, specific methods for demonstrating the presence of syphilis.

Some of the newer work in the field of self-sterilization of the skin is described. It is believed that the disinfecting capacity is due to nonspecific factors.

The genetics of some skin diseases has received increased attention recently. The background for the xanthomatoses, sickle-cell disease, and others has been clearly elucidated and could be of practical help. The large field of immunology is touched on with reference to work showing the eczamatous type of sensitization can be transferred by living cells. 52 references.—*Author's abstract.*

Intolerance to Light: On the Possibility of Utilizing Antibiotics in the Treatment of Certain Actinodermatoses. (Intolérance à la lumière: Note sur la possibilité d'utiliser les antibiotiques dans le traitement de certaines actinodermatoses.) I. DAINOW, Geneva, Switzerland. Rev. méd. d.l. Suisse rom. *71*:227-32, April 1951.

Of the various forms of actinodermatoses, due to intolerance to light, especially sunlight, solar eczema is the most common type. This form of eczema differs from allergic eczema, which it closely resembles, in that it is not transmissible passively by the serum of the patient, and that it is due to the action of an endogenous or exogenous photocatalyst. In all cases of solar eczema, there is an excess of porphyrins in the organism, which may accumulate in the blood because of this insufficient destruction in the liver. But porphyrins can also be produced in excess by a pathological intestinal flora, as for example the hemolytic colon bacilli, and may then act as photosensitizers in the organism. Where the presence of excess porphyrin can be shown to be due to such pathological intestinal flora, appropriate chemotherapy or antibiotic therapy against such organisms may relieve the solar eczema. Two illustrative cases of solar eczema are reported in which hemolytic colon bacilli were found in the stools; the sulfonamide, Gantrisin, was given in a dosage of 3 Gm. daily for two weeks and resulted in a marked diminution of porphyrin in the stools and a cure of the solar eczema. Both of these patients were subsequently repeatedly exposed to the sun during the summer without developing another attack of solar eczema. 5 figures.

Aureomycin Ointment in Dermatology. (La pommade à l'auréomycine en dermatologie.) GEORGES GARNIER, Paris. Presse méd. *59*:542-43, April 21, 1951.

The author reports the use of aureomycin ointment in the treatment of various dermatological infections; in the preparation of the ointment, either pure vaseline or carbowax is employed with 3 per cent aureomycin. This ointment has proved of special value in the treatment of epidermitis occurring around leg ulcers or infected wounds; the application of the aureomycin ointment, after cleansing and bathing with permanganate, results in the rapid healing of such skin infections. In some cases of severely infected leg ulcers, the use of the aureomycin ointment has also resulted in healing. The aureomycin ointment is also effective in intertrigo with bacterial infection, especially in intertrigo involving the inguinal and retroauricular regions, which is so often resistant to the usual methods of treatment. Folliculitis due to staphylococcus infection, especially in the hairy regions of the body (beard, pubis, etc.), is one of the chief indi-

cations for the use of the aureomycin ointment; healing is more rapid than with any other method of treatment employed, even in the more chronic cases. Even sycosis (the chronic form of folliculitis of the beard and mustache), although of years' duration, responds to treatment with aureomycin. In some cases of sycosis, the ointment is applied to the lesions every day at first, later three times a week. Many cases of streptococcal impetigo heal with the usual topical applications, but in the more severe cases, where such treatment is ineffective, aureomycin ointment is indicated. In 70 cases treated with the aureomycin ointment, the author has observed only one case of slight local irritation resulting from the application of the ointment (in this case vaseline ointment); and this reaction was not sufficiently severe to make it necessary to discontinue treatment before the folliculitis was cured. In all other cases the ointment caused no reaction. 2 references.

Dangers of External Application of Penicillin. (Dangers de la pénicilline en usage externe.) A. TZANCK, E. SIDI, AND J. GAUTARD, Hôpital Saint-Louis, Paris. Presse méd. 59:713-14, May 23, 1951.

In 22 months, 32 cases of reaction to local applications of penicillin occurred, representing 14.8 per cent of all cases of *dermatitis medicamentosa* seen during that period. Seven illustrative cases are reported in which the reaction was of varying degrees of severity. In some cases the reaction resulted from repeated local applications, and sometimes from injection of penicillin after local treatment had been completed. Reactions followed the use of penicillin ointment more frequently than other forms of local application, probably because of the greater penetration of ointment into the tissues. The epidermal sensitivity to penicillin resulting from local applications may also involve the development of a generalized sensitivity. As the skin infections for which local applications of penicillin are usually employed are rarely of a serious nature, such local applications should be used with caution, as they may involve a penicillin-sensitivity that would contraindicate the use of penicillin in a more serious general infection. 3 figures.

Fused Bentonite Sulphur as a Topical Medication. THOMAS H. STERNBERG AND DAVID R. TAYLOR, Los Angeles, Calif. Urol. & Cutan. Rev. 55:348-52, June 1951.

The product, because of its original effectiveness as a fungicidal agent in agriculture and its value in the treatment of numerous skin conditions in dogs, was therefore considered for trial in man.

The preparation is a combination of Wilkonite bentonite and sulphur with the finished product containing 30 per cent sulphur which is micronized for use on the skin. Two specific vehicles described by Dowdy and Vincent were used as bases for the fused bentonite sulphur. Toxicity studies in animals and patch tests on 200 subjects revealed the product to be relatively nontoxic. A total of 194 patients were treated with fused bentonite sulphur in two bases, either alone or in combination with other drugs. In *acne vulgaris* the agent with 3 per cent resorcin proved to be an acceptable preparation therapeutically as well as cosmetically. In dermatophytosis of the feet and hands, good results comparable to those obtained with the best available commercial fungicidal ointment were observed. Seborrheic dermatitis of the scalp responded satisfac-

torily to this preparation when it was used with the addition of 3 per cent salicylic acid and 5 per cent liquor *carbonis detergens*. In the treatment of *tinea captis* the preparation was not therapeutically satisfactory.

The impression obtained from these studies is that micronized fused bentonite sulphur is a valuable adjuvant in the treatment of seborrheic dermatitis, *acne vulgaris*, and dermatophytosis of the feet and hands. 4 references.—*Author's abstract.*

Acanthosis Nigricans. THOMAS COCHRANE AND J. O'D. ALEXANDER, London, England. Brit. J. Derm. *63*:225-30, June 1951.

A classical case of the malignant type of *Acanthosis Nigricans* is described.

A woman aged 70 years reported multiple warty growths on the limbs and face. These were accompanied by an increase in the pigmentation in the skin, a generalized itching, and loss of hair and sense of smell and taste.

On examination the skin of the palms, backs of hands, fingers, soles, and toes was greatly thickened. Very numerous hyperkeratosic warty growths were present on arms, thighs, legs, and face. There was brownish to black irregular pigmentation of the body surface. There was warty hypertrophy of the gums.

The liver was enlarged; the edge was hard but not tender.

E.S.R. (Westergren) was 48 mm. in the first hour. Faecal occult blood was positive. Barium meal showed marked obstruction in the lower end of the oesophagus. Oesophagoscopy showed an extensive fungating tumor at a distance of 27 cm. from the incisor teeth. Biopsy showed a well differentiated carcinoma.

Kepler-Power water excretion test gave a value of 23.08 for factor A (lower limit of normal is between 25 and 31); plasma sodium 387 mg. per cent: plasma chlorides 536 mg. per cent; urinary 17 ketosteroids. 5.7 mg. per diem; basal metabolic rate was 9 per cent below standard; serum vitamin A 353 μg. per 100 ml.

The patient was treated with 24,000 I.U. vitamin A three times a day. Two months after dismissal from hospital the patient could swallow only fluids, there was loss of weight, and her general condition had deteriorated. The skin however had become more pliable; and the warty lesions had regressed greatly.

Comment: This case is unusual in that the cancer was situated in the oesophagus. The presence of malignant disease appears to perpetuate the *acanthosis nigricans* and the acanthotic condition continues to spread until the cancer causes death. In the present case this progression was not obtained. It has been suggested that lack of vitamin A might be a cause of the disease. The serum vitamin A was raised yet massive doses were of benefit. Secondary neoplasms in the liver may upset the metabolism of vitamin A. There have been no reports of deficient hepatic function. The value of Vitamin A therapy remains unexplained. Tests for suprarenal functions were normal with the exception of a slightly low Kepler-Power water excretion test. 6 references.—*Author's abstract.*

New Type of Colloid Bath. ROBERT R. KIERLAND AND MITCHELL EDE, Rochester, Minn. Arch., Dermat. & Syph. *63*:502, April 1951.

A new procedure for the preparation of an oatmeal bath is described, using a pre-

pared oatmeal preparation, Aveeno. This preparation is manufactured from pure oatmeal. The finished product represents 12 per cent of the original oatmeal. This product has the ability to absorb a large amount of water and develops high viscosity and covering power when dispersed in warm water. It is mildly acidic, pH of about six, and possesses high buffer activity.

The following describes the procedure in the preparation of this type of colloid bath:

Two cups (236 ml.) of Aveeno are placed in the floor of the tub beneath the faucet and warm water is allowed to flow at full force over the powder. This method allows better dispersion of the powder with less tendency to formation of lumps than do others. About 30 gallons (113 L.) of water is run into the tub, and the temperature is brought to 95 to 98 F. (35 to 36.6 C).

The advantages of this procedure lie principally in the rapidity and simplicity of preparation rather than in any superior therapeutic effect.

Unusual Pyodermas (Hidrosadentitis Suppurativa, Acne Conglobata, Dissecting Cellulitis of the Scalp). ROBERT R. KIERLAND, Rochester, Minn. Minnesota Med. *34*:319-25, April 1951.

These three unusual pyodermas have many features in common; in fact, they frequently coexist and because of this merit consideration as a group.

These pyodermas are uncommon, protracted in their course, produce much discomfort and disability to those afflicted, are resistant to conservative therapeutic measures, produce severe scarring, and are of unknown etiology. Men are afflicted more frequently than women, and the age distribution of greatest pyodermic activity is during the active sexual career, that is, the second through fifth decades of life.

Hidrosadentitis suppurativa is a chronic, indolent, suppurative, inflammatory disease involving the skin, subcutaneous tissues, and apocrine glands with sites of predilection for the perianal, genital, inguinal, and axillary areas, which produces abscesses, sinuses, and ulceration. The primary lesion is a deep-seated, tender nodule which either resolves spontaneously in a matter of weeks or progresses to abscess formation with subsequent drainage. The suppuration may persist with development of new nodules or extension of the process in the subcutaneous tissues. As a result, linear inflammatory cords, multiple sinus tracts, and undermining, burrowing ulcerations may appear. The disease is subject to remissions and exacerbations and may persist for years.

Acne conglobata is also a chronic indolent inflammatory suppurative disease involving the skin and subcutaneous tissues although the primary inflammatory reaction is about the sebaceous apparatus rather than the apocrine glands, and papulopustules result. Comedones are numerous, large, grouped, and scattered over the body; the double comedo and comedo scar are considered characteristic of this condition. The inflammatory reaction begins as a follicular nodule in the center of which may be one or more comedones. As healing and activity go on together, fusion of two or more plaques may result in a large serpiginous plaque characterized by infection, abscesses, communicating channels and sinuses, comedo scars, and scarring.

Dissecting cellulitis of the scalp, as its name implies, is confined to the scalp, rarely

spreads to the nuchal area, and usually is found as the sole condition but occasionally occurs in combination with *hidrosadentitis suppurativa* and *acne conglobata*. The reaction is composed of burrowing, undermining abscesses and follicular and perifollicular inflammation. The early lesion appears as a superficial or deep inflammatory nodule, from which the hairs may be extracted with but slight traction. The nodules enlarge and, as more appear, become connected with each other, so that ultimately the vertex and occiput may be covered with a maze of intercommunicating sinus tracts. After eventual healing, elevated nodules and ridges, and atrophic scarring remain; the appearance is not unlike that of the convolutions of the brain.

In typical cases, the diagnosis of these uncommon three types of pyoderma is made without difficulty. In the early course, *hidrosadentitis suppurativa* must be distinguished from the more superficial pyococcic furuncle and carbuncle and occasionally from erysipelas, lymphadenitis and cellulitis. As the process becomes more extensive with the production of deep undermining sinuses and corded scarring, colliquative tuberculosis and the deep mycoses must be considered as well as the chronic, undermining, burrowing, nongangrenous ulcer that Meleny described in 1935.

Acne conglobata is recognized easily for the most part, but cystic, indurative, and cachectic acne may simulate the signs of *acne conglobata*, tuberculosis, syphilis, and the deeper mycoses are to be ruled out, but the characteristic comedo scar is seen only in *acne conglobata*. The indolent abscesses may suggest bromoderma or systemic blastomycosis.

Dissecting cellulitis of the scalp is a readily recognized condition when seen in its entirety and at the height of its activity. In the terminal phases, however, it should be distinguished from the scarring alopecias, especially *folliculitis decalvans* and pseudopelade. Dissecting cellulitis of the scalp may be separated from *folliculitis keloidalis;* however, the two conditions may be found in the same patient together with hidrosadentitis and *acne conglobata*.

The cause of any of these pyodermas is unknown. Three determining factors appear which are as follows: (1) bacteriologic, (2) endocrine, and (3) that most important and nebulous factor which may be defined as the "soil" of the patient, or presence or absence of individual resistance.

The histopathology of these three pyodermas is essentially that of infection, varying only as to the anatomy of the involved area.

The treatment of *hidrosadentitis suppurativa*, *acne conglobata*, and dissecting cellulitis is somewhat similar.

Systemic treatment is directed toward the maintenance of the general health and well-being of the patient and toward the correction of metabolic faults. Dietary factors should be dealt with according to the experience of the patient. Persons who have *hidrosadentitis* and *acne conglobata* sometimes are inclined to obesity. They should reduce. If chocolate, nuts, and rich pastries tend to increase the severity of the pyodermas, they should be excluded from the diet. For the most part, however, a diet rich in protein, but moderate or low in fat and carbohydrates is given together with vitamin supplements. In addition to dietary instructions, the patient is instructed concerning adequate exercise and rest.

Thyroid by mouth seems to have definite value for certain individuals. Estrogenic preparations may be given to the female patient as well as the male, provided that strict observation is made for the development of untoward signs of estrogenic activity.

Antibiotics administered by mouth, intramuscularly, or even injected locally in and about abscesses or applied locally in the form of wet dressings or ointment are of definite benefit when there is much acute inflammation and when the process is of short duration; however, such treatment is of much less value when the process is a scarring one of long duration with only a few islands of infection in the midst of the scar. Antibiotics do not prevent reactivation of the pyoderma.

Local therapeutic measures are instituted at the same time as the general measures.

Heat either in the form of infra-red light, a hot wet dressing of tap water, or of a 1:16 dilution of Vleminckx's solution applied to sites of involvement is of help to the patient. This, together with incision and drainage of the fluctuant abscesses, may even cure a few patients early in the course, especially those with hidrosadentitis.

For patients who have extensive areas of skin affected as in *acne conglobata* and some with hidrosadentitis, sulfur baths may be given once daily or less often. These patients may also be given suberythema doses of ultraviolet light, gradually increasing the duration of each exposure so that a tan results.

If comedones are present as in *acne conglobata*, they should be expressed. The loose hairs present in the affected sites of hidrosadentitis or dissecting cellulitis should be manually removed. Recently the oily cysts of *acne conglobata* have been treated with electrodesiccation with success. This treatment may be applied to the more active inflammatory nodules as well and to the comedones themselves.

Roentgen therapy remains one of the best therapeutic measures available for hidrosadentitis. The earlier it is used the better the results, for when much scarring has occurred, nothing will help except radical surgical excision.

With all that has been mentioned concerning treatment, there are many patients who continue to have exacerbations of the pyoderma, who are in pain, and who are disabled. Radical surgical excision is indicated and provides the only cure for these patients and for those whose pyoderma is characterized by marked ulceration and by scarring with interspersed islands of infection. The areas of infection and scarring, if possible, are excised widely and deeply, so that the surgical procedure carries into normal healthy tissue. A split skin graft may then be applied especially in areas where contractures are detrimental, or the wound may be covered by pinch grafts, or if the wound is not too large, it may be allowed to epithelialize of its own accord without the aid of grafting. In certain areas, especially the anogenital region, the site of the excision is subject to infection, and grafts do not take well; hence, here it is best that the wounds be as small as possible, so that epithelialization may proceed with the least amount of difficulty. In the scalp the areas of excision should correspond to the convolutions of the infection, so that the scalp may be covered with hair arising from the uninvolved sites.

Surgical procedures in multiple stages may be done as necessary as new areas become affected or in the event that the infected areas are too large or disseminated to be treated by a single procedure. On occasion a solitary plaque of infection and scar-

ring as in *acne conglobata* may be too large to permit total excision at one time; for such a patient, excision of various portions should be done as multiple procedures. It behooves the dermatologist to recognize the limits of his specialty. If satisfactory results are not obtained by conservative measures and if the dermatologist is not capable of performing the indicated surgery, the patient should be referred to a competent surgeon.

A brief review of that data on *hidrosadentitis suppurativa*, *acne conglobata*, and dissecting cellulitis of the scalp has been given. Emphasis has been placed on treatment, and it has been stressed further that, when the patient does not respond to conservative methods of therapy including roentgen rays, the patient should then undergo radical surgical excision of the areas of infection and scarring. These uncommon pyodermas are but similar expressions of the same basic pathologic change and disease. 17 references. 5 figures.—*Author's abstract.*

Acne Vulgaris. A Psychosomatic Study. E. WITTKOWER. Allan Memorial Institute, Montreal, Canada. Brit. J. Derm. *63*:214-23, June 1951.

Sixty-four patients suffering from *acne vulgaris*, 31 men and 33 women, were submitted to a personality study. All the patients studied were at least 18 years of age, most of them over 20.

According to their prevailing characteristics, the patients could be classed as: (1) rigid personalities, (2) rebels and dreamers, (3) overgrown children, (4) sufferers from gross psychological disorders. A majority of the 26 patients labeled as rigid personalities had grown up against a repressive background. As grown-ups, almost without exception, they displayed an exemplary behavior. Factors which distinguish these patients from many other persons are the harshness of their conscience, their frantic efforts to control their instinctual impulses, and the unusual severity of their self-reproaches and self-condemnation if in thought, phantasy, or action they had trespassed upon their self-imposed prohibitions. They were not only straightlaced, but had placed themselves voluntarily and almost deliberately in a straightjacket as if they needed one to keep themselves in check. As is common at puberty, the 14 patients described as rebels and dreamers were boastful, flouted authority and convention, were dirty and untidy or were subject to feelings of unworthiness, decried the depraved state of the world and had world reformatory ideas. Female patients prevailed at a ratio of 6 to 1 among the 7 "overgrown children." As implied by the term, they were arrested or retarded in their development or had fallen back to childhood behavior after feeble attempts at asserting themselves. They behaved like anxious little schoolgirls, rather than as grown-up women. Eight patients suffered from gross psychological disorders: anxiety hysteria (four cases), conversion hysteria (two cases), endogenous depression, character disorder, psychopathic personality (one case each). Nine patients could not be classed in any of the groups described.

Irrespective of their prevailing characteristics, a feature common to a majority of the acne patients studied was an inhibition of their sexuality. Sexual inhibition and employment of reaction formations against sexual impulses were particularly marked in the largest group of this series, the rigid personalities. An indication of the correct-

ness of the statement that patients suffering from acne are sexually inhibited may be obtained from the facts that out of the 10 married women in this series, seven showed evidence of gross sexual maladjustment (in contrast with 1 in 20 primiparae) and that out of the 16 men who had had sexual experiences, 3 were either impotent or labile in their potency.

The behavior of the patients studied resembles in many respects that of boys and girls at puberty. Because patients under 18 were excluded from this series and because many of them were in their twenties if not older, it appears that the patients studied were arrested in their emotional and psychosexual development at the stage of puberty. There is no evidence that there was a corresponding delay in physical development. No claim is made that *acne vulgaris* can be explained on psychological grounds alone. But the hypothesis is submitted that not only the physiological process of maturation but also the emotional disturbances connected with puberty are relevant to its common onset at this period of life; and that a retardation of emotional and psychosexual development is related to its onset or persistence beyond the span of life usually allotted to puberty.

Kaposi's Varicelliform Eruption: Record of an Outbreak. J. SOMMERVILLE, W. NAPIER, AND A. DICK, London, England. Brit. J. Derm. *63*:203-14, June 1951.

An outbreak of K.V.E. is recorded with one death. The case histories are incorporated. There are eight plates included in the article, five in color and one of a 72-hour culture of the vaccinia virus on chorio-allantoic membrane. Three temperature charts are also shown, two of which reveal a distinct response to aureomycin therapy. Bacteriological findings revealed staphylococcus pyogenes, coagulase positive, Gram-negative cocci, and B-hemolytic streptococci. The technique used in the virological investigations is fully described with the results. An obvious association with recently vaccinated subjects was invariably found. *Dermatitis gangrenosa infantum* was noted as a complication of one case. In discussion, the mode of infection and the differential diagnosis from small pox are suggested and outlined. Varying degrees of severity were encountered. In view of the danger of infection occurring in an unvaccinated sufferer from eczema, it is suggested that in the event of the need for widespread vaccination such patients should be discharged from skin wards and treated for the time being at home. 11 references. 7 figures. 3 tables.—*Author's abstract.*

Sunburn Prevention: A Vanishing Cream Effectively Opaque to Actinic Rays. WILLIAM J. HEMPHILL, Eugene, Oregon. Northwest Med. *50*:424-25, June 1951.

In an attempt to inhibit sunburn in susceptible persons, a vanishing cream was formulated which contained 1 per cent phenyl salicylate, 5 per cent antipyrine, and 5 per cent sodium para-amino-benzoate. These chemicals were found to have the power to absorb ultra-violet radiation of between 2100 Angstrom units to 3200 Angstrom units. Clinical trials using both a Hanovia lamp and natural sunlight showed that the formula is effective in inhibiting ultra-violet injury to the skin. 7 references.—*Author's abstract.*

The Skin: Psychodynamic and Psychopathologic Concepts. SAIDIE H. ZAIDENS, New York, N. Y. J. Ner. Men. Dis. 5:388-94, May 1951.

The skin may be the target of many psychopathologic pressures. First, since the skin is accessible to the patient and visible to the outside world, it is used for the acting out of certain psychologic conflicts. It may serve the purpose of attracting love, attention, sympathy, pity, or compensation. It may also produce repugnance, avoidance, or disgust. Second, because of its erotic quality, the skin may be used as a masturbation substitute, and as either a masochistic or sadistic sexual accessory organ. Third, in the psychoses, the skin is frequently the target of self-punishment, self-castration, self-destruction, and delusions of contamination and infestation.

It is to be noted that conflictual material in psychosomatic dermatoses is close to the level of consciousness. However, this does not mean that good therapeutic results are easily obtained. The skin serves such a good biphasic purpose in both acting out the conflict symbolically and protecting the patient from facing his conflicts realistically that many patients are reluctant and unable to give up their dermatoses. This factor may explain the chronicity of many dermatoses. It is for this reason that patients with chronic, long-standing dermatoses deserve a psychiatric examination for therapeutic, prognostic, and research purposes. 15 references.

Self-Inflicted Dermatoses and Their Psychodynamics. SAIDIE H. ZAIDENS, New York, N. Y. J. Ner. Men. Dis. 5:395-404, May 1951.

Neurotic excoriations are produced by patients who are driven to remove "cores or bumps" from their skins; they experience great tension which is relieved by an orgy of digging and picking. These patients are obsessive-compulsive in nature. Their self-inflicted lesions represent rage and hostility toward authority, self-punishment for this rage, and riddance of contamination. Patients who have had acne vulgaris may excoriate their skins in an attempt to remove follicular plugs, blackheads, and pustules long after the acne has cleared. In these cases there is anxiety and preoccupation about the skin, far out of proportion to the skin problem present. There may be depression, seclusiveness, and compulsive eating. These patients are considered to be latent schizophrenics. The trichotillomanic patients, who pull out hairs from the scalp, eyebrows, eyelashes, or pubes, are usually women who are trying to get out of an unbearable sexual situation. They are inadequate, dependent persons who need a husband for support but feel contaminated by sexual relations. Prognosis is poor. Dermatitis factitia appears in inadequate, hysterical persons who have given up the competitive struggle and save face by producing a physical illness. Motivation is not deeply repressed, and psychiatric help is never sought. Many varieties of lesions may result from compulsive behavior, e.g., soap dermatitis. Psychotherapy is much more valuable in these cases than in cases in which the dermatitis is the only symptom. An exception to this is the case in which obsessive-compulsive behavior is part of a schizophrenic syndrome; here removal of the compulsive behavior through psychotherapy may precipitate a psychosis. 14 references.

Contact Dermatitis. FRANK G. WITHERSPOON, Nashville, Tenn. J. Tennessee State M.A. *44*:141-44, April 1951.

Contact dermatitis is the commonest condition seen by the dermatologist. Considerable detective work is necessary in determining the cause of a rash. The history is essential in this regard as the line of work, the areas of the body involved, the hobbies followed, and many other factors have great bearing on the diagnosis. Housewives are especially subject to irritation by household detergents. The newer synthetics have much more of a defatting action and are frequently associated with so-called "housewive's eczema." The danger of occupational dermatitis is pointed out, and the importance of scrupulous cleanliness is stressed. The "hardening" process in which the worker gradually becomes immune to irritating substances should be allowed to take place, if a new worker develops only a mild dermatitis. If very severe, however, he must be removed from the job.

Poison ivy dermatitis is discussed, and the fallacy rejected that a susceptible individual can develop this rash without touching the plant. The location of the lesions is of great importance in arriving at a diagnosis, and articles of clothing, jewelry, etc., in the involved area are investigated. The use of sensitizing local medication is deplored if other therapy of equal value can be used. For all practical purposes, sulfonamides, penicillin, furacin, and occasionally mercurials are interdicted. The local anesthetics may cause much harm and should not be used. The treatment of acute contact dermatitis is symptomatic, with wet compresses usually being most important. The irritating contactant must be found, if possible, and removed. Injection for poison ivy treatment of the rhus extract is worthless and may cause further irritation.

Role of the Dermatologist in the Treatment of Skin Lesions in Association with Varicose Veins. MORRIS H. SAMITZ, Philadelphia, Pa. Urol. & Cutan. Rev. *55*:353-54, June 1951.

There are many skin lesions which closely resemble those cutaneous eruptions which often complicate varicose veins but which can be produced by different mechanisms. These skin diseases localized to the lower extremities, which may be mistaken for the cutaneous manifestations of peripheral-vascular disease, can be classified for differential diagnosis according to three causal mechanisms: (1) external; (2) systemic; and (3) exclusive dermatological entities of known or unknown origin.

Emphasis is stressed on establishing an etiologic diagnosis. This is accomplished by integrating the complete physical examination of the patient with the history, the attributes and distribution of the cutaneous lesions, and with the aid of the laboratory.

A simplified classification of cutaneous eruptions observed in association with varicose veins is presented:

(1) The primary eruptions are listed as (a) stasis dermatitis, (b) varicose eczema, and (c) varicose ulcer. Associated with these primary entities are their sequelae: (a) hyperpigmentation, (b) localized neurodermatitis, and (c) dermatosclerosis.

(2) The secondary eruptions are superimposed or complicate the primary erup-

tions: (a) fungous infections, (b) pyogenic infections, and (c) allergic eczematous contact-type dermatitis.

The proper approach in the treatment of the cutaneous disorders in association with varicose veins is a program coordinating and utilizing the facilities of the dermatology, the peripheral-vascular, and the surgery departments. The dermatologist can best differentiate and eliminate those cutaneous diseases of the lower extremities that simulate the cutaneous manifestations, which reflect an underlying peripheral-vascular disorder. To attain maximum benefit for the patient with skin diseases associated with varicose veins, proper dermatologic management will afford symptomatic relief for those patients in whom a conservative regimen is advisable and will insure best preparation of the skin if surgery is indicated.—*Author's abstract.*

Sebaceous Carcinoma. EDWARD P. CAWLEY AND JAMES A. PHILPOTT, JR., Ann Arbor, Mich. Univ. Hosp. Bull. Ann. *17*:127-33, May 1951.

Four cases of sebaceous carcinoma are reported. There is no clearcut and consistent evidence as to the exact point of origin of these tumors, and there are no distinctive gross characteristics, other than the suggestive tiny, yellowish collections of sebaceous cells, such as occurred in two of the four cases, which aid in the clinical differentiation of sebaceous carcinoma from basal and squamous cell neoplasms of the skin. There is evidence to suggest that freezing or large amounts of irradiation may be agents of etiologic significance in some cases of sebaceous carcinoma. Sebaceous carcinoma may mimic basal cell carcinoma, yet the former metastasizes rather frequently and the latter almost never. 14 references. 4 figures.—*Author's abstract.*

The Myrmecia. A Study of Inclusion Bodies in Warts. ALAN LYELL AND J. A. R. MILES, England. Brit. M. J. *4712*:912-15, April 28, 1951.

Histological examination of warts for inclusion bodies resulted in the discovery that there were two kinds of wart. In the first place, there was the wart showing the commonplace histology, and this type was called type B (for "banal"); the other kind showed bodies which were interpreted as inclusion bodies and was called type I (for "inclusion").

The inclusion bodies, which were illustrated by a series of photographs, tracing their evolution from the lower prickle cells to the horny cell layer, were eosinophilic and both intracytoplasmic and intranuclear.

Examination of warts from a consecutive series of 102 patients revealed a correlation between histological and clinical features, so that eventually the histological type of wart could be forecast, in most cases, from the clinical appearances. Thus type B warts were the common warts of the fingers, face, and knees which are so common in schoolchildren; type I warts were the painful "verrucae" or plantar warts, and also some on the palms, pulp of the digits and beside, and under the nails. But the site of the warts alone did not prove the histological type as, for example, the mosaic type of plantar warts were type B. The most important criteria were the pain and inflammation occasioned by the type I warts, their depth in the skin, the large cavity which they left on removal, and their soft fleshy consistency.

A transmission experiment suggested that the warts bred true to type, but the evidence was conflicting.

The type I warts appear to correspond with the myrmecia described by Celsus, and the authors suggested that the name myrmecia should be revived for this kind of wart, to distinguish it from the verruca vulgaris, or type B wart. 21 references. 11 figures. *—Author's abstract.*

Herpes Zoster Appearing During Cortisone Therapy: Case Report. HAROLD C. FISHMAN, Beverly Hills, Calif. Ann. W. Med. Surg. *5*:487, May 1951.

Herpes zoster appeared on the right shoulder and arm of a thirty-five year old white woman with rheumatoid arthritis, who had been under constant cortisone therapy for eight months. It appears that cortisone will not protect against virus diseases like *herpes zoster*. Cortisone therapy did not prevent the pain associated with *herpes zoster*. Cortisone therapy did hasten the involution of *herpes zoster* skin lesions.

Disseminated Lupus Erythematosus in Identical Twin Sisters Associated with Diabetes Mellitus in One Case. MARTIN W. DAVIS AND G. H. GUTRIDGE, St. Louis, Missouri. J. Missouri M. A. *48*:446-50, June 1951.

Case reports of two identical twin sisters who died of disseminated *lupus erythematosus* are presented. One of the twins had diabetes mellitus. Autopsy findings in the nondiabetic twin are presented. "L.E." cells described by Hargraves were found in the bone marrow of this case. A photograph of one of these cells is shown. The patient with *diabetes mellitus* did not have autopsy examination, but the clinical diagnosis was definite. Review of the literature failed to reveal any report of a familial incidence of *lupus erythematosus*. In Cluxton's review of the etiology of *lupus erythematosus*, familial factors are not mentioned. Stokes, Beerman and Ingraham believe *lupus erythematosus* is a manifestation of vasculo-allergic or infectious-allergic mechanisms in an unusually reactive individual. It would seem that the type of mechanism they postulate might show a familial incidence. There is no definite relationship of disseminated *lupus erythematosus* to endocrine disease although the relationship of the disease to ovarian function has been studied intensively since Contratto and Levine treated a case with a sterilizing dose of x-ray to the ovaries. This is apparently the only case of *lupus erythematosus* in a diabetic. Unfortunately autopsy was not done in this case so that we are unable to state whether the islets of Langerhans were affected by the disease.

Therapy of Psoriasis: A New Biologic Method of Stimulation of the Cortico-Adrenal. (La thérapeutique du psoriasis; méthode biologique nouvelle de stimulation de la cortico-surrénale.) J. CHARPY, Marseilles, France. Presse méd. *59*:487-90, April 11, 1951.

Psoriasis is characterized by a functional inhibition of the system ACTH-11-oxysteroids; its therapy, therefore, should consist in a long-standing stimulation of this system. The following are means utilizable to attain this end: tissue implantation

(placenta), concentrated injections of extracts rich in nucleoprotidic derivatives, sino carotid enervation, insulino-therapy shock methods used in psychiatry and ultra-violet therapy applied after sensitization of the teguments.

The author suggests a new method, which consists in administration of high doses of unsaturated substances, especially vitamin A of natural animal origin (100,000 to 300,000 units daily for 20 to 30 days). Pituitary-adrenal stimulation is produced by derivatives from oxidation of the vitamin, and it is necessary, on the other hand, that this stimulation be exerted exclusively in the gluco-corticotrophic direction and might end in no overworking or deviation from the normal activity of the cortico-adrenal. The fulfilling and maintaining of such conditions have led the author to associate with vitamin 2, in the beginning of the treatment, thyroxin and vitamin D 2, in the course of the treatment, vitamin C, and at times desoxycorticosterone.

Although the method has not been definitely settled, rapid and regularly beneficial results were obtained, such as a marked improvement in the articular manifestations attending psoriasis. Besides, further applications may be contemplated, especially to asthma and probably evolutive chronic rheumatism.

Changes in Sweating after Prickly Heat. W. S. S. LADELL, London, England. British Medical Journal, Brit. Med. Ass. *4719*:1358-60, June 16, 1951.

Serial routine tests carried out on a European after his arrival for the first time in the tropics showed that he became less instead of more acclimatized to heat after six months in the tropics, during which time he had been moderately active. He sweated less, his rectal temperature rose more, and his heat tolerance was diminished in a standard acclimatization test; the chloride content of his sweat was raised. The subject had had severe "prickly heat" and had been complaining of exhaustion and some debility; this, and the changes in the sweating, lead the author to diagnose him as a mild case of Type II Heat Exhaustion, which often followed severe prickly heat. This syndrome is probably the same as Tropical Anidrosis. The diminution in heat tolerance cannot be accounted for by the diminution in sweating, nor, probably, can the changes in the chloride content of the sweat; these, the author suggests, in a deliberately controversial discussion and in subsequent correspondence in the same journal, may be an expression of some central disorder of the nature of what Selye would term a "breakdown of adaptation." The importance of the adrenal cortex in heat tolerance and in the control of sweating is now generally recognized. The actual breakdown is precipitated by the skin changes following severe prickly heat, or possibly by the prickly heat itself. 18 references. 2 tables.—*Author's abstract.*

Dermatitis from Local Anesthetics. C. GUY LANE, Boston, Mass. J.A.M.A. *146*:717-20, June 23, 1951.

This article calls attention to the relatively frequent cases of dermatitis due to local anesthetics, but comparatively few such cases have appeared in the literature. Since 1921 only 107 cases have been reported, in which 73 per cent were confirmed by positive patch tests. However, many were not tested. The majority of these cases appeared

in the following two years, suggesting that the cases are so common that they do not need to be reported. Eighty-three per cent of the reported cases due to procaine appeared in persons who use it with great frequency (dentists and physicians), suggesting that the condition is basically an occupational disease.

The local anesthetics at fault are procaine, orthoform, butamben (butesin) picrate, tetracaine (pontocaine), dibucaine (nupercaine), ethyl aminobenzoate (benzocaine), butacaine (butyn), apothesine, larocaine, and piperocaine (metycaine). Each of these anesthetics is discussed separately and tables of cases reported in the literature appear in the reprints. Collateral sensitivity among these similar organic compounds is not infrequent and may be wide. A recent survey of dentists indicates a rather high proportion of dentists who have become sensitized to local anesthetics and confirms the occupational aspect. A table of official preparations in U.S.P., N.F., and N.N.R., and a table of many unofficial preparations containing local anesthetics are included in the article.

The possibility of a generalized sensitivity in any given patient after a localized attack is emphasized. It would seem unwise to dispense or prescribe a preparation for topical use containing a local anesthetic agent without being alert for the occurrence of epidermal hypersensitivity at any time. Furthermore, a word of caution in regard to the possibility of such sensitization should be issued in all advertising material which concerns these agents. 74 references. 11 tables.—*Author's abstract.*

syphilology

The Response of T. Pallidum to Intramuscular Penicillin in Oil. COLONEL RYLE A. RADKE, Kentucky. Military Surg. *109*:191-92, Sept. 1951.

Sixty-three cases of dark field positive early syphilis have been examined by dark field examinations at hourly intervals, starting at the fourth hour after the initial injection of 600,000 units of penicillin in oil. In the majority of cases the dark field became negative between the seventh and eighth hour. The shortest time before disappearance of the organism was 4 hours, and the longest time was 12 hours.

Oral Terramycin in Granuloma Inguinale. JAMES C. WHITAKER, LOUIS T. WRIGHT, MALCOLM S. BEINFIELD, ROBERT S. WILKINSON, AND MILTON MARMELL, New York, N. Y. Antibiotics and Chemotherapy *1*:208-10, June 1951.

Five patients having granuloma inguinale were treated orally with terramycin, with resultant prompt healing of the lesions. The diagnosis in each case was established by demonstration of the presence of Donovan bodies in tissue smears obtained by biopsy or scrapings from the ulcers. Our criterion of cure was the complete healing of the ulcers.

The drug was administered to a total of eight patients, but we were able to follow only five to completion of treatment, because three ambulatory patients did not return for check-up. The five completed cases were hospitalized throughout the course of treatment. With regard to the incomplete cases, it should be stated that for the short

time that they were under treatment, two cases showed clinical improvement up to the time they were lost to the study.

It is too early to make a definite statement as to whether or not any of these patients will show relapse, but thus far none has done so. No toxic reactions were observed in any of these patients.

Terramycin is a valuable drug in the treatment of granuloma inguinale and is worthy of further extensive study.—*Author's abstract.*

book reviews

Therapy of Dermatologic Disorders, Including a Guide to Diagnosis and a Dermatolgic Pharmacopeia. SAMUEL M. PECK, M.D., Philadelphia, Lea & Febiger, 1951.

This therapeutic outline on everyday problems of dermatology reflects the personal experience of the authors. It thus constitutes a good guide for the beginner in dermatologic therapy. There is, however, an extensive chapter on the dermatologic pharmacopeia for the experienced dermatologist. There is an excellent chapter on differential diagnosis originally evolved by Saboraud. There is an excellent classification of skin disorders in accordance with the National Conference on the nomenclature of disease. Each disease is discussed from the standpoint of etiology and diagnosis with the greatest emphasis on treatment. This compendium is invaluable for effective management of common skin diseases.

Chloroform, A Study after 100 Years. Edited by RALPH M. WATERS, Madison, Wisconsin, University of Wisconsin Press, 1951. Price $2.75.

For the past hundred years chloroform has been the cause of a controversial storm in anesthesia. The investigations presented in this monograph were conducted in two ways—in the laboratory, the effects of the drug were determined on experimental animals; in the operating room, the drug was administered to 1,000 patients who were being subjected to supplementary tests of renal, hepatic, and cardiac function. These studies indicate that chloroform is the most potent of all anesthesias administered by inhalation. Its speed of action lies between cyclopropane and ether. The patient should be subjected to analgesia to enable continuation of surgical work. The drug produces gradual depression of breathing and reduction of blood pressure in deep anesthesia. Nevertheless, chloroform is a safe anesthetic in the hands of a competent anesthetist.

Reading, Writing and Speech Problems in Children. SAMUEL TORREY ORTON, M.D., W. W. Norton & Company, Inc., New York, 1937. Price $3.00.

Disorders in the normal acquisition of spoken or written language are a great hindrance to academic advancement. That, in itself, would not be serious if the difficulty were not to be able to get at the root of the deep-seated emotional disturbance. The author has made a lifetime study of the mechanism of language-loss in the adult as a key to developmental disorders in the child. He has studied the type of disorders that

occur in the development of language in children. This simple monograph presents in basic English the author's striking observations, interpretations and modes of treatment of all such difficulties. This guide reveals the specific devices in training methods evolved to meet the needs of each particular case.

Spatial Vector Electrocardiography, Clinical Electrocardiographic Interpretation. ROBERT P. GRANT, M.D. and E. HARVEY ESTES, JR., M.D., Philadelphia, The Blakiston Company, 1951.

The introduction of the vector method as interpreted by the ECG brings precision and objectivity to this diagnostic procedure. In the spatial vector method of interpretation, each of the conventional leads used in clinical electrocardiography is considered to represent a measurement of the electrical forces of the heart along a specific axis through the electrical field of the heart. In other words, the various deflections recorded in the conventional leads simply represent so many different points of vantage in examining a single electrical field. When compared with other methods of interpretation, then the vector method represents a different "point of view," for the same electrode positions and the same deflections are used in this method as in other methods.

This book is not a textbook on electrocardiography. Many aspects of clinical electrocardiography are not discussed. Indeed, only the ventricular ECG is considered; that is, the QRS and T deflections. Of course, vector methods can be applied to the study of the P wave; however, there are few circumstances where such information is clinically useful at the present state of our knowledge. The rhythm disturbances are not discussed, for they are adequately described in many other texts. Furthermore, it is assumed that the reader is familiar with the components of the ECG and can recognize a Q wave or a T wave, that he understands the time and amplitude markings on the ECG, and that he understands the technique for taking the conventional limb and precordial leads. The underlying basis and the broader implication of the spatial vector method is admirably presented in this monograph.

The Sources of Love and Fear. M. BEVAN-BROWN, New York, Vanguard Press, Inc., 1950. Price $2.50.

The purpose of this book is preventive psychiatry in childhood. The author emphasizes the importance of breast feeding for mental and physical health. It is not enough for the mother to offer the breast passively, but she must actively woo, for the baby to appreciate the accompanying love-relationship. The author cautions the mother not to be afraid of following the maternal instinct and intuition. He advises a wide scope in expressing maternal affection for the baby. There is no rule or thumb method by which you can rear the baby. The author discourages the practice of leaving the baby to cry alone. He advises that a mother be within the immediate reach of her baby during the early months of life. He deplores the practice of scolding babies at any age or for any reason. He places great emphasis on the emotional malaise of childhood. He not only poses the problem but indicates ways of solving them. The author considers fear to be at the root of most of man's difficulties. If freedom from fear is to be achieved, we

must eradicate the sources of fear. The author's dictum is "Drink deep from the well springs of love, in its fullest sense." Clearly, such a process must start in the first year of life.

The Effect of Hormones Upon the Testis and Accessory Sex Organs. NORRIS J. HECKEL, M.D., Charles S. Thomas Publishing Co., 1951.

In evaluating the effects of the sex and interrelated hormones on the male organs of reproduction in clinical medicine, the author reveals the management of common male endocrine disorders. He discusses the embryology, anatomy, and histology of the male sex organs in order to depict the role played by various hormones in normal functions. The results of our present knowledge may be summarized as follows: Sex hormones produce disorganization of the spermatogenic structure. Androgens produce transient sterility in the normal male. When therapy is discontinued, the spermatogenesis recurs. Androgen therapy is, therefore, indicated for sexual growth and development of the accessory sex organs, even after puberty. Estrogens, of course, produce sterility, less seminal fluid, and impotence. All of these phenomena disappear upon withdrawal of the estrogen. But, estrogen in the male is effective in advanced prostatic cancer.

Diabetes Mellitus, Principles and Treatment. GARFIELD G. DUNCAN, M.D., Philadelphia, W. B. Saunders, Company, 1951.

This is a welcome addition to the books on diabetes because the disease is one of the most poorly treated of all human disorders. The subject remains controversial when it should already have been clarified. The mortality remains high when it should be negligible. Unfortunately, physicians are satisfied with various degrees of sugar in urine and blood, fearing hypoglycemia rather than hyperglycemia, and consider normal glycemia as risky. The therapeutic approach in diabetes is the same as in any other disease. The patient is abnormal, and it is the physician's duty to make him normal by diet and insulin. The author's book offers meticulous detail in the proper management of diabetes. It enables the elimination of all complications and arranges an orderly life for the diabetic and absolves him from arterial and organic degenerations. Every aspect of the subject is covered for each age period, thus making it an indispensable guide in everyday practice.

Pain and Its Problems. Edited by SIR HENEAGE OGILVIE and WILLIAM A. R. THOMSON, M.D., Philadelphia, The Blakiston Company, 1950.

This delightful monograph on pain is a simple yet fundamental evaluation of this everyday problem. It is a warning of disturbed function. The author evaluates pain in every system of the body and assesses its true significance as a diagnostic agent. He unravels three major problems: (1) the course of the pain fibers from different parts of the body to the brain, (2) the diagnostic significance, and (3) the alleviation of pain from wherever it comes. The problem of pain of nonorganic origin is dealt with indirectly with its psychosomatic implications. Each phase of the problem is presented

clearly by masters of medicine in each field. The monograph is a refreshing application of fundamental physiologic principles in everyday practice.

The Psychology and Pathology of Hemostasis. ARMAND J. QUICK, PH.D., M.D., Philadelphia, Lea & Febiger, 1951.

Tremendous strides have been made in the past decade in the study of the mechanism of blood coagulation. There is great confusion in the radical changes in the basic concepts as well as in the new terminology. The author assembles these new facts and interprets them for clinical application. Viewed from such a standpoint, the classification of hemorrhagic diseases becomes more fundamental and the therapy more rational. After a historical development of underlying concepts of hemostasis, the author proceeds to unify the theories into a working basis. This enables a classification based upon deficiency or excess of each of the clotting components. The chapter on venous thrombosis is the outgrowth of cooperation with surgeons.

Clinical Electrocardiography. ASHTON GRAYBIEL, CAPTAIN, M.C., U.S.N., Director of Research, U.S. Naval School of Aviation Medicine, Pensacola, Fla. Thomas Nelson & Sons, 1951.

This monograph is a practical guide to the use of the electrocardiography in everyday practice. The author gives the basic concepts of the origin of the electrical forces in the heart and their representation in the electrocardiogram. He gives chief consideration, however, to the alterations in the normal record caused by heart disease. The author performs a great service in bringing together the divergent tendency in clinical cardiography. On the one hand, technical advance has enabled electrocardiograms to be obtained more easily. On the other hand, the employment of many leads has made interpretation more difficult. Fortunately, the trend towards vector cardiography is in the direction of simplification. In this method the attempt is made to visualize the changes in the electrical field through the cardiac cycle. The difficulties encountered in three dimentional representation disappear if limited to changes in the frontal plane. All aspects of heart disease are clearly discussed and clearly presented in comparison with the norms.

Research in Medical Science. Edited by DAVID E. GREEN, PH.D. and W. EUGENE KNOX, M.D., New York, Macmillan Company, 1950. Price $6.50.

The authors bring to medical science the borderline provinces in order to study the nature of the disease process. This involves biochemistry, immunology, virology, bacteriology, physical chemistry, entomology, genetics, parasitology, and other fundamental sciences. Representatives of 26 such aspects of medical research survey the methods and problems in their particular fields. These monographs enable the medical student to get a realistic approach of medical research. It enables the clinician to recognize the dependence of medicine upon fundamental disciplines. Each chapter is devoted to a particular specialty that ranges from endocrinology and cancer research to study in psychiatry. The book is a great source of stimulation to the thinking practitioner.

Symposium on Steroids in Experimental and Clinical Practice. ABRAHAM WHITE, Philadelphia, The Blakiston Company, 1951.

This monograph embodies the first annual steroid conference. It concerns most of the diseases related to the metabolic and clinical effects of 11-desoxy steroids. Much valuable clinical information is given with regard to cortisone and ACTH. Clinical and experimental studies on the effects of synthetic steroid hormones of the 11-desoxy group is evaluated in arthritis, cancer, sterility caused by seminal inadequacy, tuberculosis, ulcer, hypertension, and other diseases. Some of the observations are preliminary; others are tried and tested. But the monograph summarizes all clinical findings for the practitioner and research worker to evaluate the effectiveness of each steroid. The final tables reveal the type of clinical conditions, the number of patients, the pharmaceutical forms of preparation, the daily dose, the duration of treatment, and the actual clinical responses observed.

Principles of Public Health Administration. JOHN J. HANLON, M.S., M.D., M.P.H., St. Louis, The C. V. Mosby Company, 1950. 493 pages, 48 illustrations. Price $6.00.

Dr. Hanlon has written this book for those who are making or will make public health administration their career. He says that the demand for trained and experienced personnel is so acute that it will be many years before the current needs can be fulfilled.

No one will take issue with the author over the fact that public health departments are necessary to the general public welfare and that they have accomplished great good. A doctor concerned with public health need no longer remember the million and one things which, as a private physician, made him a revered and successful doctor. Rather must the doctor who goes into public health have capabilities for organization, publicity, sociology, government, economics, and politics. Both doctors are in the same profession but, according to Dr. Hanlon, the latter is concerned with the all inclusive aspects of medicine.

Dr. Hanlon describes the interesting aspects of public health work, the historical and administrative, and the pattern of public health activities in the United States. He writes interestingly because he is thoroughly imbued with his subject.

Physician's Handbook. MARCUS A. KRUPP, M.D., NORMAN J. SWEET, M.D., ERNEST JAWETZ, M.D. AND CHARLES D. ARMSTRONG, M.D., Palo Alto, Calif., University Medical Publishers.

This manual offers a readily available source of factual data, laboratory procedures, and clinical aids repeatedly used in all branches of medicine. It encompasses all aspects of diagnosis, prognosis, and treatment. Many of the clinical and laboratory procedures are illustrated graphically. There are new sections on electrocardiography, electroencephalography, and radioisotopes. It is a real handbook, a veritable compendium of diverse information rarely available in a single pocket volume. The book is invaluable in everyday practice for the student, practitioner, and specialist.

Problems of Infancy and Childhood, Transactions of the Third Conference, March, 1949, New York. Edited by MILTON J. SENN, M.D., sponsored by Josiah Macy, Jr. Foundation, 1949.

This round table discussion of some of the psychological problems emanating in pediatric problems is limited to anxieties of mothers, psychological situations of mother and child upon return from the hospital, and the emotional reactions of children to a T & A.

Problems of Infancy and Childhood, Transactions of the Fourth Conference, March, 1950. Edited by MILTON J. SENN, M.D., sponsored by Josiah Macy, Jr. Foundation, New York.

The purpose of this monograph is to integrate aspects of infancy and childhood in order to clarify tangible concepts and achieve a broader perspective for research. Several such conferences reveal the cultural determination of parental attitude. The problem is the outgrowth of family life and methods of evolving a healthy personality. This conference was recorded from round-table discussions and gives a crystallized view of the participants in the field.

Renal Function, Transactions of the First Conference, October 21, 1949, New York. Edited by STANLEY E. BRADLEY, New York, Josiah Macy, Jr. Foundation.

This monograph on renal function embraces conference discussions of biochemists, enzymologists, morphologists, and clinicians. The question considered is how the organ as a whole functions and how the individual cells perform their respective tasks. Clinically, there is an attempt to rationalize therapy in terms of the fundamental nature of cellular function. The consensus of opinion at this conference was that the future of renal pharmacology lies in the understanding of cellular enzyme mechanism. The discussion involved tubular absorption and secretion from the morphological standpoint. There is also a remarkable discussion on the enzyme, glutaminase, in renal cellular function. Finally, these discussions emerge with the challenging problem posed by tubular secretion of potassium and acid and by tubular absorption of chloride, sodium and water.

Proceedings of the First Conference on Electrokymography, May, 1950, Bethesda, Md. Sponsored by the National Heart Institute, Public Health Publication No. 59, 1951.

This new instrument is a photoelectric device which observes the movements of the heart that appear on a fluoroscopic screen. The essential element of the device is a photomultiplier tube, which translates the heart border movements and cardiac silhouette density changes to current changes. The current changes actuate a galvanometer, which records a beam type tracing on moving bromide paper. This record is called an electrokymogram. A carotid pulse wave, an electrocardiogram, or a phonocardiogram, can be simultaneously recorded, thereby providing additional means for interpretation and evaluation of the electrokymogram.

The earliest objective in electrokymography was to develop an instrument which would record border motions of the chambers and great vessels of the heart. The work of numerous investigators has progressed to a point where much useful knowledge has been accumulated concerning normal persons and a few patterns established for certain forms of heart disease. A new avenue of investigation was opened by the observation that the electrokymographic pickup element could be placed over the central portions of the heart to record the thickening and thinning of the ventricles. Through many investigations based on animals and humans, a method has been devised which correlates these density changes to cardiac output. This may some day become a quick, simple, and nonhazardous method for determining the work capacity of a person with heart disease.

The conference proceedings confirmed the value of clinical study of border motions, particularly with respect to estimations of myocardial changes, constrictive pericarditis, aortic insufficiency, and certain arrythmias. If the hopes of the investigators are fulfilled, the electrokymography may provide an additional diagnostic aid for physicians. However, further progress in the evaluation of the instrument and its applications is needed before it can be considered for routine clinical use.

Connective Tissues, Transactions of the First Conference, April 24-25, 1950, New York, N. Y. Edited by CHARLES RAGAN, Josiah Macy, Jr. Foundation.

The structure and function of connective tissue is replete with misinformation. This monograph enlightens us on what is known, what is not known, what is fact, and what is conjecture. It approaches the subject from the standpoint of chemistry, endocrinology, enzyme systems, and pathology. The enlightening chapter is on the effects of ACTH and cortisone in connective tissue in health and disease.

A Textbook of Medicine (Eighth Edition). Edited by RUSSELL L. CECIL, M.D. SC.D. and ROBERT F. LOEB, M.D., Associate Editors: ALEXANDER B. GUTMAN, M.D., WALSH MCDERMOTT, M.D. and HAROLD G. WOLFF, M.D., Philadelphia and London, W. B. Saunders Company, 1951. 1627 pages, 204 figures, 40 tables. Price $12.00.

This new edition approaches medicine not only from the clinical but from the physiologic, biochemical, and psychologic aspects of disease. These represent the underlying basis of every disease picture. Indeed, the very mechanism depends upon thorough understanding of these principles. Consequently, the merging of mechanism with management is a valuable contribution towards more accurate diagnosis and treatment. The book covers every aspect of medicine encountered in everyday practice. Emphasis is on adult practice although some aspects of pediatrics are included. The format of each chapter remains the same. There is included, however, a valuable historical survey of most diseases. It offers a complete panorama of the evolution of disease and the scientific advances that have crystallized it into an entity. The references have been carefully chosen from the standpoint of underlying concepts and effective therapy.

Factors Regulating Blood Pressure, Transactions of the First Conference, April 24-25, 1947, New York. Second, Third, and Fourth Transactions, January, 1948, May, 1949 and February, 1950. New York, Josia Macy, Jr. Foundation.

This series of monographs assesses the value of what has been contributed to our knowledge of the pathogenesis of human hypertension by all the work on experimental renal hypertension. The contributors reveal what has been definitely established, what should be clarified, and what remains to be pursued. The discussions are not limited to hypertension, but consider various aspects of renal function under normal and pathological conditions. The monographs unfold the structure of the nephron but are unable to picture the bed of the kidney because of lack of anatomic knowledge. The purpose of these monographs is to reveal the gaps in our knowledge and work out the method of experimental approach in solving these problems. Some of the topics considered are the relation of the nervous system to hypertension, the influence of low salt and low protein diets, the effects of renal extracts, the juxta glomerular apparatus, renin content of the kidney, pressor response, venous circulation, and hemodynamics.

German-English Medical Dictionary (241 pages); *English-German Medical Dictionary* (242 pages). Compiled by F. S. SCHOENEWALD, M.D., Philadelphia, The Blakiston Company, 1949 and 1951. Prices $8.50 and $6.00.

This scholarly work is based on 30,000 pages of Anglo-American medical literature and illustrates the various shades of meaning of a word or expression by giving suitable examples of its use. It is not simply a glossary or a work giving the equivalent words in the two languages, but rather, following the example of the Oxford Dictionaries, it is a phrase dictionary, thus providing the user with a full idiomatic understanding.

Dr. Schoenewald escaped from Nazi Germany to England, where he devoted much time to compiling these volumes. He died before they could be set up in type, and his son-in-law, Dr. Alfred Schweitzer, saw the books through the press and edited them. Dr. Schweitzer is bilingual in English and German and is an author and investigator of distinction.

These volumes will be of immense value to the research worker as well as the general medical reader because they give all the purely medicotechnical terms, as well as those words of the lay language which are commonly used in medical practice, and gives their special meanings when used in professional writings.

Manual of Tumor Nomenclature and Coding. Prepared by Subcommittee of the Statistics Committee, American Cancer Society, published by the American Cancer Society, 1951.

The study of tumors is an exacting and complex discipline. Its pursuit is made more difficult by the handicap barriers to communication in the form of confirmatory terminology and coding systems. This manual is the first of its kind prepared by pathologists and statisticians to provide a common language for the profession. It comprises histogenic and malignancy codes to be used in conjunction with the site codes already in existence.

news

UROLOGY AWARD

The American Urological Association offers an annual award of $1000.00 (first prize $500.00, second prize $300.00, and third prize $200.00) for essays on the result of some clinical or laboratory research in urology. Competition shall be limited to urologists who have been in such specific practice for not more than five years and to men in training to become urologists.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Chalfonte-Haddon Hall, Atlantic City, New Jersey, June 23-26, 1952.

For full particulars write the Secretary, Dr. Charles H. de T. Shivers, Boardwalk National Arcade Building, Atlantic City, New Jersey. Essays must be in his hands before February 15, 1952.

OBITUARY

(Information taken from the *Annals of Internal Medicine, 35*, No. 4, October 1951.)

It is with regret that we announce the death on August 13, 1951, of Dr. James Edgar Paullin, one of the most active and venerated members of our Editorial Board. Born on November 3, 1881 in Fort Gaines, Georgia, he was graduated from the medical school of Johns Hopkins University in 1905. In 1915 he was named Clinical Professor of Medicine at the Emory University School of Medicine, where he strove to emulate the example of his own former professor, Sir William Osler. The author of more than fifty scientific articles published between 1908 and 1950, Dr. Paullin has covered, in his writings, the fields of bacteriology, pathology, diabetes mellitus, syphilis, cardiovascular diseases, and medical education. In 1928, Dr. Paullin became a Fellow of the American College of Physicians, of which he was president from 1941-1944. Among other outstanding positions, he was personal physician to the late Franklin D. Roosevelt, whom he attended at the time of his death in 1945. For his service in World War II he was awarded the nation's highest civilian award, the President's Medal of Merit, in 1947. It is impossible to list here all the activities and accomplishments of Dr. Paullin, whom it was a rare privilege for this journal to count among the members of its Editorial Board; his brilliant intellect and stimulating contribution will be greatly missed in future years.



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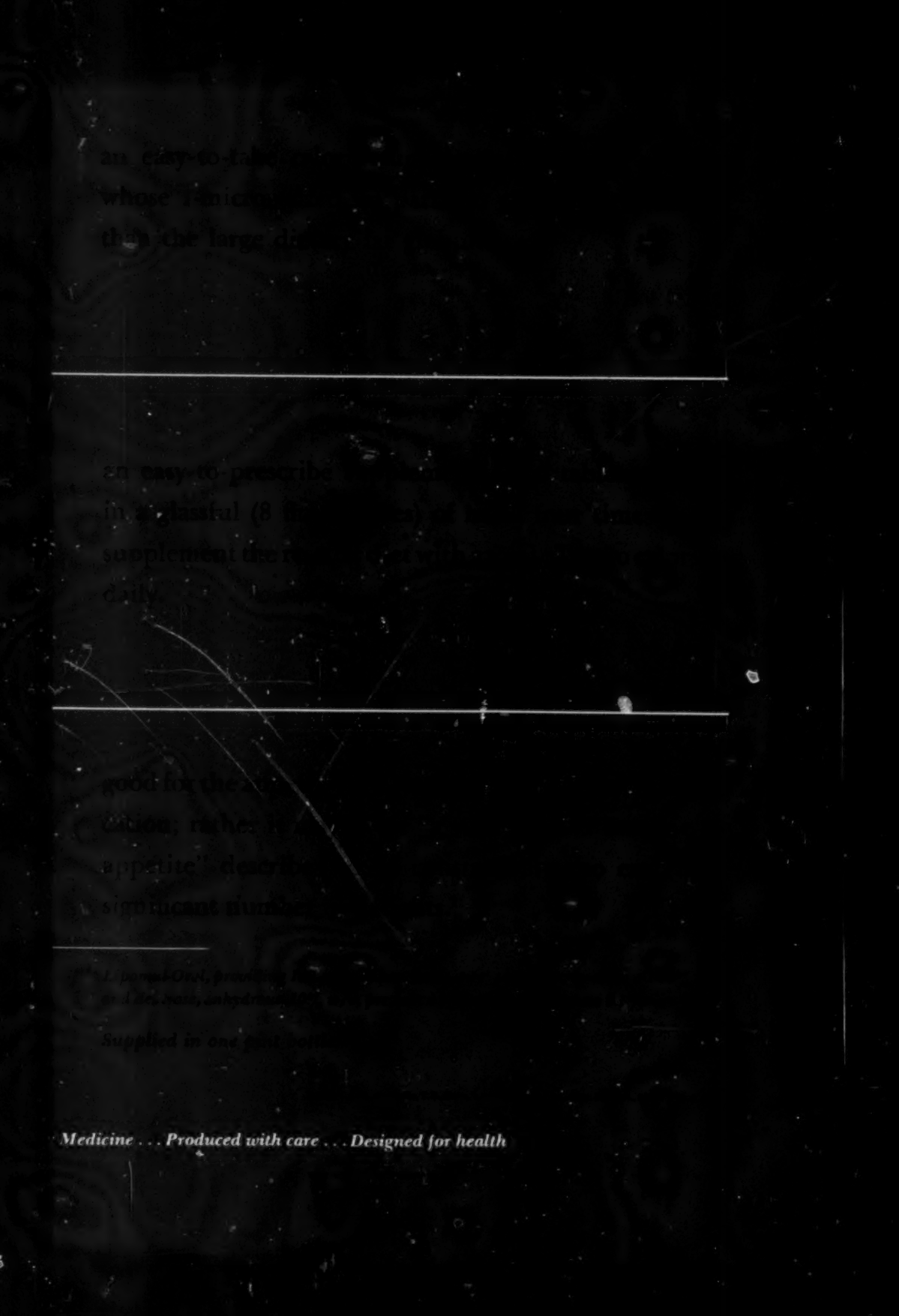
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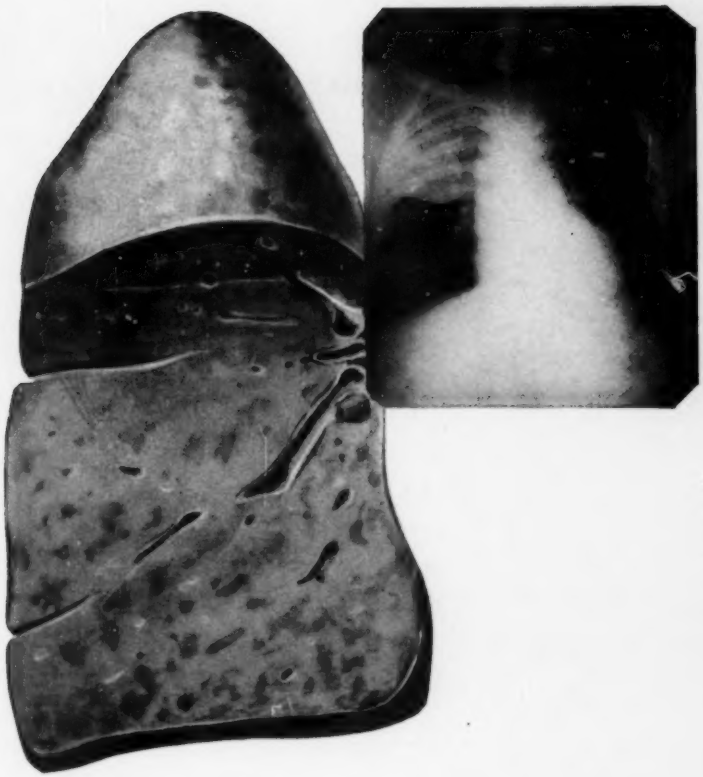
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in lobar pneumonia: The prompt response to Terramycin therapy in lobar pneumonia is consistent with results obtained in primary atypical pneumonia, bronchopneumonia and many other infections of the respiratory tract. In a typical series of pediatric cases, Terramycin-treated, "temperatures returned to normal in 24 to 48 hours after therapy was begun. The clinical appearance of marked improvement took place during the same period."

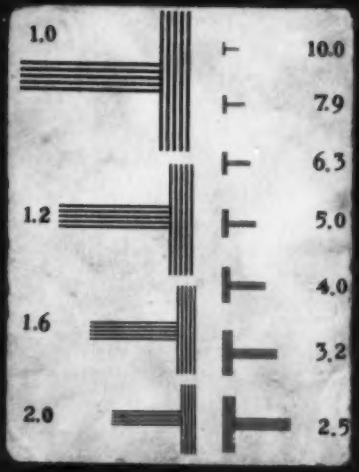
Potterfield, T. C., and Starkweather, G. A.: J. Philadelphia General Hosp. 2:6 (Jan.) 1951

CRYSTALLINE TERRAMYCIN HYDROCHLORIDE

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RESOLUTION CHART



100 MILLIMETERS

INSTRUCTIONS Resolution is expressed in terms of the lines per millimeter recorded by a particular film under specified conditions. Numerals in chart indicate the number of lines per millimeter in adjacent "T-shaped" groupings.

In microfilming, it is necessary to determine the reduction ratio and multiply the number of lines in the chart by this value to find the number of lines recorded by the film. As an aid in determining the reduction ratio, the line above is 100 millimeters in length. Measuring this line in the film image and dividing the length into 100 gives the reduction ratio. Example: the line is 20 mm. long in the film image, and 100/20 = 5.

Examine "T-shaped" line groupings in the film with microscope, and note the number adjacent to nearest lines recorded sharply and distinctly. Multiply this number by the reduction factor to obtain resolving power in lines per millimeter. Example: 7.9 group of lines is clearly recorded while lines in the 10.0 group are not distinctly separated. Reduction ratio is 5, and 7.9 x 5 = 39.5 lines per millimeter recorded satisfactorily. 10.0 x 5 = 50 lines per millimeter which are not recorded satisfactorily. Under the particular conditions, maximum resolution is between 39.5 and 50 lines per millimeter.

Resolution, as measured on the film, is a test of the entire photographic system, including lens, exposure, processing, and other factors. These rarely utilize maximum resolution of the film. Vibrations during exposure, lack of critical focus, and exposures yielding very dense negatives are to be avoided.

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